

GOVERNMENT OF INDIA

ARCHÆOLOGICAL SURVEY OF INDIA

CENTRAL
ARCHÆOLOGICAL
LIBRARY

ACCESSION NO. 36654

CALL No. 572.09705 A.A.

D.G.A. 79.

AMERICAN ANTHROPOLOGIST

NEW SERIES

ORGAN OF THE AMERICAN ANTHROPOLOGICAL ASSOCIATION,
THE ANTHROPOLOGICAL SOCIETY OF WASHINGTON,
AND THE AMERICAN ETHNOLOGICAL
SOCIETY OF NEW YORK

PUBLICATION COMMITTEE

W. H. HOLMES, *Chairman ex-officio*; F. W. HODGE, *Secretary ex-officio*; JUAN
B. AMBROSETTI, FRANK BAKER, FRANZ BOAS, DAVID BOYLE, ALEX-
ANDER F. CHAMBERLAIN, STEWART CULIN, GEORGE A. DORSEY, J.
WALTER FEWKES, ALICE C. FLETCHER, GEORGE BYRON GORDON,
B. TALBOT B. HYDE, H. VON IHERING, A. L. KROEBER, RODOLFO
LENZ, NICOLAS LEÓN, GEORGE GRANT MACCURDY, W. J. MCGEE,
CHARLES PEABODY, F. W. PUTNAM, FREDERICK STARR.

F. W. HODGE, *Editor*, WASHINGTON, D. C.

572.09705

A. A.

• 36854

VOLUME 11

1909



Reprinted by permission of the original publishers

KRAUS REPRINT CORPORATION, NEW YORK 17, N.Y.

1962

CENTRAL ARCHAEOLOGICAL
LIBRARY, NEW DELHI.

Acc. No. 36654
Date 18-3-63
Call No. 572.09705 / A.A.

CONTENTS OF VOLUME 11

ARTICLES

	PAGE
Scale Formation in Primitive Music. FRANCES DENSMORE	1
Some Kutenai Linguistic Material. ALEXANDER F. CHAMBERLAIN	13
Some Plant Names of the Ute Indians. RALPH V. CHAMBERLIN	27
Analysis of the Mission Indian Creation Story. THOMAS WATERMAN	41
Excavation of Earth-lodge Ruins in Eastern Nebraska. ROBERT F. GILDER. With a Report on the Skeletal Remains. ALEŠ HRDLÍČKA. (Plates I-VI)	56
Some Unusual Iroquois Specimens. M. R. HARRINGTON. (Plate VII)	85
Eolithic and Paleolithic Man. GEORGE GRANT MACCURDY	92
Anthropology at the Baltimore Meeting. With Proceedings of the American Anthropological Association for 1908. GEORGE GRANT MACCURDY	101
Secret Medicine Societies of the Seneca. ARTHUR C. PARKER. (Plates VIII-IX)	161
Aboriginal Remains in the Middle Chattahoochee Valley of Alabama and Georgia. P. A. BRANNON	186
A Remarkable Ceremonial Vase from Cholula, Mexico. CARL LUMHOLTZ	199
A Reconnaissance Trip in Western Texas. CHARLES PEABODY (Plate X)	202
The Eskimo Trade Jargon of Herschel Island. V. STEFÁNSSON	217
California Basketry and the Pomo. A. L. KROEBER	233
Snow-snake as Played by the Seneca-Iroquois. ARTHUR C. PARKER. (Plate XI)	250
Some Observations Made in Northwestern South Dakota. GEORGE F. WILL	257
The Bannock and Shoshoni Languages. A. L. KROEBER	266
The Dhudhuroa Language of Victoria. R. H. MATHEWS	278
The Putnam Anniversary. A. M. T. (Plate I)	285
Distribution of the Non-Christian Tribes of Northwestern Luzon. FAY COOPER COLE. (Plates XII-XVII)	329
An Antillean Statuette, with Notes on West Indian Religious Beliefs. J. WALTER FEWKES. (Plate XVIII)	348

	PAGE
New Evidence of the Distribution of Chipped Artifacts and Interior Culture in British Columbia. HARLAN I. SMITH	359
Tattooing of the North American Indians. A. T. SINCLAIR	362
The Various Uses of Buffalo Hair by the North American Indians. DAVID I. BUSHNELL, JR. (Plate XIX).	401
The Language of the Piro. JOHN RUSSELL BARTLETT. Introduction by F. W. HODGE	426
The Excavations at Tyuonyi, New Mexico, in 1908. EDGAR L. HEWETT. (Plates XX-XXVI)	434
Anthropology at the Winnipeg Meeting of the British Association. GEORGE GRANT MACCURDY	456
The Inscriptions of Naranjo, Northern Guatemala. SYLVANUS G. MORLEY	543
Notes on the Piro Language. JOHN P. HARRINGTON	563
Archeological Remains on the Coast of Northern British Columbia and Southern Alaska. HARLAN I. SMITH. (Plates XXVII-XXVIII)	595
Notes on Penobscot Houses. W. C. ORCHARD	601
Aboriginal Remains in the Champlain Valley. G. H. PERKINS. (Plates XXIX-XXXVII)	607
Peruvian Throwing-sticks. MAX UHLE. (Plates XXXVIII-XXXIX)	624
A Passamaquoddy Aviator. J. DYNELEV PRINCE	628
The Excavations at El Rito de los Frijoles in 1909. EDGAR L. HEWETT	651

BOOK REVIEWS

FYNN: The American Indian as a Product of Environment, with Special Reference to the Pueblos (<i>Mooney</i>)	120
DUNN: True Indian Stories, with Glossary of Indiana Indian Names (<i>Mooney</i>)	120
URBAN: The Application of Statistical Methods to the Problems of Psychophysics (<i>Wissler</i>)	121
OETTEKING: Kraniologische Studien an Altägyptern (<i>Chamberlain</i>)	122
BERLOIN: La Parole Humaine (<i>Chamberlain</i>)	123
TAUBER: Ortsnamen und Sprachwissenschaft (<i>Chamberlain</i>)	125
RIVET: Les Indiens Jibaros (<i>Chamberlain</i>)	126
STARR: A Bibliography of Congo Languages (<i>G. P. W.</i>)	128
DE ZWAAN: Bydrage tot de anthropologie der Menangkabau-Maleiers (<i>ten Kate</i>).	289

	PAGE
MÜLLER: L'Europe Préhistorique (<i>MacCurdy</i>)	291
MUNRO: Prehistoric Japan (<i>Starr</i>)	297
WEULE: Wissenschaftliche Ergebnisse meiner Ethnographischen Forschungsreise in den Südosten Deutsch-Ostafrikas (<i>Starr</i>) .	298
JONGHE: Etudes sur les Sources de l'Ethnographie congolaise; L'Activité ethnographique des Belges au Congo (<i>Starr</i>) .	301
OVERBERGH-JONGHE: Collection de Monographies ethnographiques (<i>Starr</i>)	303
BOMAN: Mission scientifique G. de Créqui Montfort et E. Sénéchal de la Grange. Antiquités de la Région Andine de la Répub- lique Argentine et du Désert d'Atacama (<i>Chamberlain</i>). .	307
MORICE: Dictionnaire historique des Canadiens et des Métis français de l'Ouest (<i>Chamberlain</i>)	312
Collections of the State Historical Society of North Dakota. Volume II (<i>Dixon</i>).	498
BELLO Y RODRIGUEZ: Le fémur et le tibia chez l'homme et chez les anthropoïdes (Variations suivant le sexe, l'âge et la race) (<i>Chamberlain</i>)	503
GÖTZE, Höfer, Zschiesche: Die vor- und frühgeschichtlichen Alter- tümer Thüringens (<i>MacCurdy</i>)	506
WOODS: Mental and Moral Heredity in Royalty. A Statistical Study of History and Sociology (<i>Spillman</i>)	509
GOULD: Righthandedness and Lefthandedness, with Chapters Treat- ing of the Writing Posture, the Rule of the Road, etc. (<i>Cham- berlain</i>)	517
SPECK: Ethnology of the Yuchi Indians (<i>Swanton</i>)	520
MUMFORD: The Origins of Leadership (<i>Swanton</i>).	522
LEHMANN-NITSCHKE: Nouvelles recherches sur la formation pam- péenne et l'homme fossile de la République Argentine, recueil d'observations scientifiques (<i>ten Kate</i>)	524

FOREIGN NOTES

Maumbury Rings Circle, 131. Imperial Bureau of Anthropology for the British Empire, 131. Negroid characters in Egypt, 135. Needle-case from Grinnell Land, 135. Peruvian manuscript discovery, 136. Grooved axes in Europe, 316. Prehistoric remains at Olympia, 316. An ancient dug-out, 317. Fru Sique Rink, 317.

ANTHROPOLOGIC MISCELLANEA

- William Jones, 137. Archeology of the Everglades region, Florida, 139. The scope and content of anthropology, 142. Archeology in Nebraska, 144. Theodore-Jules-Ernest Hamy, 145. The new serpent mound in Ohio, 147. The Heye collection, 149. McElmell cañon, 149. Minor notes, 150-151. Kutenai basketry, 318. The Pan-American Scientific Congress, 319. Shell embroidery from Florida, 320. Radical defects of ethnology, 321. Indian stone constructions near Salton sea, California, 322. British Association meeting, 323. Dr J. D. E. Schmeltz, 324. The American Ethnological Society, 325. An Alabama Anthropological Society, 325. Minor notes, 325-328. American Anthropological Association meeting, 529. A Kutenai berry-basket, 529. Measurements of Chukchis, 531. The "Centenary Congress" of Americanists, 533. Kutenai and Shoshonean, 535. Miss Johanna Mestorf, 536. Harlan I. Smith, 537. The Peabody Museum expedition, 538. Proposed Universal Races Congress, 539. Professor Henry Montgomery, 539. Franz Boas, 540. Minor notes, 540-541, 815-817.

American Anthropologist

NEW SERIES

VOL. 11

JANUARY-MARCH, 1909

No. 1

SCALE FORMATION IN PRIMITIVE MUSIC

By FRANCES DENSMORE

INTRODUCTION

IT is the purpose of this article to consider the subject of scale formation among primitive people by presenting certain observational data, grouped for convenience but not intended to prove any theory.

The statement is frequently made that primitive music is based on the pentatonic scale which comprises the first, second, third, fifth, and sixth tones of the diatonic octave ; this scale, however, represents an established musical basis and must have been preceded by an experimental period in which tones were used in smaller groups. What tones were these, and what interval relation did they bear to each other ? Was the initial tone a high tone, and if so what was the most common interval in the descending melody ? What was the most common interval relation between the first and last tones of the song ? These are some of the questions which present themselves to the student of primitive music : the answers must be based on actual musical performances of primitive people, and from the answers to these and similar questions may eventually be deduced some knowledge of the gradual formation of a musical scale.

In our consideration of this subject it is desirable that we concede music to be primarily a means of expression, spontaneous and intended solely for the satisfaction of the individual ; secondarily, or at the next stage of its development, a means of communication by which a mental concept is intentionally conveyed to another or other individuals ; and later, a cultivated art whose aim is to com-

bine the spontaneous element of the first phase, and the magnetic element of the second phase with a required technical skill and conformance to established canons.

Our first point of consideration must therefore be primitive music as a spontaneous means of expression.

Generally speaking, the instrumental music of this period is either a rhythmic pounding or the blowing of some instrument similar to a flute. Undeniably each of these has a direct bearing on our subject, but unfortunately the necessary data are not at hand for their analysis. Turning to the field of vocal musical expression we search for one or two features so commonly accepted as to form a safe basis for our study. The subject is so vast and its scientific analysis so new that our work at the present time can present only a portion of the truth, yet that presentation may lead the way to the ultimate establishment of fundamental facts.

For purpose of further analysis, let us note the predominance of the love song in all musical expression, next in volume being songs of grief, songs of the contemplation of nature, and songs of religious content.

During the Exposition at St Louis I studied the music of the uncivilized Filipino villages, comprising the Igorot, Negrito, Samal Moro, and Lanao Moro. Among all these tribes I found special emphasis upon the love song, and I even found one Mangyan, sole representative of his tribe, who said that his people sang only once and that was at courting time.¹

The Hawaiian princess Kalaniana'ole recently told me that most of the old Hawaiian songs were love songs, next in number being the dirges.

A study of the music of the American Indian reveals a large number of love songs, but Indian music is neither so primitive as the Filipino nor so clear an entity as the Hawaiian. Each Indian tribe sings many songs learned from neighboring tribes, and it will be the labor of many years to collect sufficient songs of pure tribal culture to determine a relative number of love songs; but my observation among the Chippewa of Minnesota shows that these Indians

¹ The music of the Filipinos, *American Anthropologist*, n. s., vol. 8, no. 4, Oct.-Dec., 1906.

are extremely fond of their love songs, and that many of them are widely known and are said to be very old. Human nature is essentially the same in civilized and uncivilized environment, and the shelves of our music stores will be found to contain a large proportion of songs of love and grief, next in number being songs of religious content and songs concerning the contemplation of nature.

In Lord Monboddo's *Origin of Language* (vol. 1, p. 469) Dr Blacklock says: "The first language among men was music; before our ideas were expressed by articulate sounds they were communicated by tones varied according to different degrees of gravity and acuteness."

I quote the following from *Progress in Language*, by Otto Jespersen, Ph.D., of Copenhagen: "Thoughts were not the first things to press forward and crave for expression; emotions and instincts were much more powerful and more primitive."

Without entering further into proofs upon this point, let us accept an emotional origin for a portion of the musical expression of the race.

Our next question concerns the trend of the melodies which are the medium of this expression. Among several hundred Chippewa songs which I have recorded on the phonograph, I find the majority beginning on a high tone and ending on a low tone, the general trend of the melody being downward. This statement has been made concerning the music of other Indian tribes. I also found a descending trend in the *Amba* of the Negrito; this was the only accurately repeated melody which I heard in the Filipino villages.

We are therefore accepting, as a basis for our present study, the prominence of songs of love and grief, and the marked tendency of primitive music to begin on a high tone, the melodic trend being downward. We do not, of course, claim that this melodic trend is universal. Having accepted these two general statements, we naturally seek an explanation of them.

Our opinion concerning the origin of music depends on our opinion of silence. There is a silence which is vibrant, and there is a silence which is stagnant—not dormant nor containing latent power, but absolutely lifeless. Through this stagnant silence there passes a wave of mental impulse; this is repeated, it constitutes

itself a unit, the silence becomes vibrant, it becomes a medium of communication, and the mental impulse may, through this vibrant silence, be transmitted to minds which are sufficiently sensitive to receive it. From this intensity of vibration the song bursts forth, like lightning from a cloud. The intensity being reduced, the means of expression is changed to words of an extremely limited vocabulary; this is succeeded by an increased number of words until in profuseness of verbiage the more subtle means of communication are lost. The human race today is forgetting what silence is or can be. We are too noisy to know its possibilities. We seize the tools nearest at hand, and have too long depended upon words. The silent figures sitting motionless along the Ganges are monuments to the silence that died centuries ago.

But let us test our hypothesis inversely, keeping in mind that we are dealing with the expression of emotion, or, better, of mental action, and that this expression is being considered also as a means of communication. This inverse test is very simple, as human nature is the same everywhere. A shallow mental action, having, if you please, very slight vibration, finds its expression in a multitude of words. As intensity increases, the vocabulary decreases until very few words suffice. The next step is music as a means of expression, and we have the phrase that "thoughts can be expressed in music which can be expressed in no other way." Beyond this musical expression lies the vibrant silence in which neither words nor music are required as a means of communication.

Granted the vibrant silence through which, if we were sufficiently sensitive, we might communicate; granted a musical expression as its resultant, — what would be the tone which would spring forth? Would it not be the high tone which in all nature results from quick, strong vibrations? Do we not find here a possible explanation for the fact that many primitive songs begin on a high tone?

We must not forget our mysterious kinship with all that lives. Intensity of fear produces in bird and beast the high shrill cry, and intensity of distress produces the call for assistance. In all nature the love song and its prototype the love-call are intended to be far-reaching, and a tone low in vibration would not waken a response.

Before passing to the consideration of the melodic trend of

primitive emotional song, let us note the characteristics of certain Filipino love songs which I heard at St Louis.

In the Samal Moro villages the people sang for me by special arrangement; no suggestions were made as to the selection of songs, but at the close of the performance I was told that the songs were all love songs and that they were improvised, the ability to improvise these songs being the standard of musical proficiency. These songs were rhythmic, and suggested the natural environment of the people, without being in the least imitative. The songs of the Samal Moro contained the swaying cadence of the sea, which was entirely lacking in the songs of the Lanao Moro whose dwelling is inland. In a similar manner I found the songs of the mountain-dwelling Negrito to contain rippling cadences suggesting their environment with its bird notes and mountain streams. The rhythm of the Moro love songs was most interesting, yet it would have been impossible to divide these songs by the small metric unit of two, three, or four counts which we habitually use in our modern music. The rhythm of these songs resembled the rhythm of good prose which we feel but cannot analyze because the rhythmic unit is beyond our grasp. Possibly the reason may be similar in the two instances. Each writer of literary distinction has his own peculiar rhythm by which we may occasionally recognize his work and which is an important factor in our enjoyment of it, though we may not always be conscious of its presence. This rhythm may be said to consist of the writer's individuality combined with his mental environment — rugged and forceful or gentle and reposeful. Thus the rhythm of the Moro songs reflected the individuality of the person who could freely improvise them, and the natural surroundings in which the singer lived. May we go farther and say, not that the rhythm *reflects* the individuality, but that it *creates* the individuality? These are deep problems.

If we grant an emotional origin to a portion of the musical expression of the race, and admit that an emotion seeks a high tone as its initial expression, we must next consider the first interval in the melodic descent from that tone.

In my desire to learn whether there were anything in the anatomy of the vocal organs to determine this interval, I consulted

an eminent comparative anatomist who stated that he knew of nothing in the vocal anatomy of either man or animals to determine intervals of tone. I then consulted an eminent physicist, asking whether there were any mathematical ratios in the relaxing of tension which could reasonably be applied to the ratios of vibration in a descending musical interval. He replied that he knew of no such ratios. I record these inquiries simply to show lines of investigation. As has been stated, there is evidence that musical expression in primitive man is influenced by his natural environment, but this influence implies a subjective state as well as a somewhat developed melodic sense and musical proficiency. Our present inquiry is more rudimentary and seeks to learn what interval is intuitively selected by the voice in descending from the first high tone of a song.

Certain observational data upon this point will now be presented. These data are taken from the fields of uncivilized music, ancient folk music, and ancient ecclesiastical music, the latter two being permissible, since, by the term "primitive music" as used in this connection, we understand simply music which has not been changed to conform to modern standards.

I. UNCIVILIZED MUSIC

In his work entitled *Primitive Music*, Wallaschek makes the following statement (page 146): "Music in Nukahiwa, Washington Islands, does not go beyond the minor third from E to G, except that it sometimes sinks to D. The minor third is always preferred." Also (page 148): "In the songs of the Asaba [Niger] people, a preference for the minor third is noticeable."

During my study of primitive music at the St Louis Exposition I found the Igorot songs beginning on a tonic and usually passing to the sixth, either by the descent of a minor third or by the ascent of a major sixth. This submediant tone was strongly accented. The number of these instances was sufficient to entitle the occurrence to special consideration.

In my study of Chippewa music I have found the oldest and simplest songs characterized by the descending interval of the minor third. It will be noted that the sixth (submediant) forms a convenient intermediate tone between the octave and the fifth (domi-

nant), then follows the descent to the third (mediant), this, like the interval of descent from the octave to the sixth, being the interval of a minor third. I have found many songs containing the interval-outline 8-6, 5-3, 1: it will be readily seen that this comprises all the tones of the pentatonic major scale except the second, and also that its structure consists of two minor thirds and one major third. If sufficient data were available it might be safe to infer that this is the original framework of the pentatonic scale, the scale being thought downward, after the manner of the old Greek scales. This hypothesis, however, must await further evidence for its confirmation.

II. ANCIENT FOLK MUSIC

An eminent English authority has recently made the statement that the Irish folk music is the purest type now available for study, preserving most clearly its ancient characteristics. I therefore make the following citation from the field of Irish folk music. In *Ancient Music of Ireland*, by Bunting, published in Dublin in 1840, the author makes this statement: "The feature which in truth distinguishes all Irish melody . . . is not the negative omission (as of the fourth and seventh) but the very positive and emphatic presence of a particular tone, this tone being the sixth (submediant). This it is that stamps the true Scotie character (for we Irish are the original Scots) on every bar of the air in which it occurs."

This follows a statement that the Irish songs under consideration may or may not be on the pentatonic scale.

Importance is given to this very original position by the fact that Bunting is recognized as the greatest of Ireland's harpists. The records show that he was the leader of an assembly of harpists in 1799, more than forty years before the publication of this book, and his special study was the traditions of Ireland's ancient melodies.

III. ANCIENT ECCLESIASTICAL MUSIC

The Gregorian chant has preserved for us the ancient music of the Roman Church, which was founded on the musical forms established by the Greeks. Before analyzing the printed Gregorian music, let us recall our mental impression of it. If anyone sings a chant descending a minor third with an accent, we at once exclaim,

"That chant belongs to the Roman Church!" — in brief, the instinctive testimony of the ear is that an accented descent of a minor third is characteristic of Roman Church music, which is known to be either Gregorian or strongly influenced by the Gregorian.

Seeking authentic information on this point, I consulted a text-book of the Roman priesthood. The title of this work is *Magister Choralis, A Theoretical and Practical Manual of Gregorian Chant for the Use of Clergy, Seminarists, Organists, Choir Masters, Choristers, &c.* The book is by the Reverend Francis X. Haberl, Cathedral Choir Master, Ratisbon, Ireland, and was published at Ratisbon in 1877.

I make my first quotation from the instruction for the chanting of the prayers. It is important to note that this is a primary form of the chant representing the phase of music most nearly akin to metric speech. This is shown by the fact that no definite musical measure is given for the rhythm, it being clearly stated that this is governed by the mental concept in the mind of the priest.

The author gives three forms for the chanting of the prayers: The first has the compass of a minor third, most of the words being chanted on the upper tone; this chant begins on the upper tone, sometimes uses the intermediate tone in descending to the lowest, and always uses a long note for the lowest tone of the minor third. This feature of the printed music strongly suggests an accent on the lowest tone of the minor third. The second form of the chant is entirely on one tone. In the third form of the chant all the words are sung on one tone, except at the close, where the voice falls a minor third.

The intoning of the Gospel admits of three inflections — before a mark of interrogation, before a period, and at the termination. For the two latter inflections the voice falls a minor third, one inflection having an intermediate passing tone, the other having none.

In the order for the consecration of certain articles on Holy Thursday, I find that all the six intoned sentences end with a descent of a minor third to a long note; this long note would naturally receive an accent. All these instructions are concerning the chants which are sung by the priest.

I have also examined a large number of the Gregorian chants

used by the choirs of the Roman Church, but the descent of the minor third is less in evidence on the printed page than I expected. This fact recalls the statement of the Irish harpist in regard to his folk songs, that "it is not the frequent occurrence of the sixth (submediant) but its special emphasis which characterizes this music, the peculiarity being most evident in a descending progression." It appears that the same is true of Gregorian music.

In my study of Chippewa music at Red Lake, Minnesota, where the Indians are more primitive than on the other reservations, I listened for this accent as I heard the Indian singers at the drum hour after hour, and I found that they were unmistakably accenting each descent of a minor third.

The sounding consecutively of two tones a minor third apart invariably gives the impression of a minor key, especially if the lower tone be either prolonged or accented. To this may be attributed the apparent minor tonality of Gaelic music as well as of the music of the Roman Church and the songs of primitive peoples. The statement may, I think, be safely made that neither of these classes of music contains a preponderance of minor keys. When the minor key occurs, it is not, at least in the songs which I have analyzed, an accompaniment to sorrowful emotions. Wallaschek also states that the minor keys have no connection with melancholy in their use by primitive peoples.

I have not found, either in records or in my personal experience, a prominence given to any interval except the minor third. From this we might infer that the minor third, especially in descending progression, is the principal interval of musical intuition. Such an assumption would, however, seem to conflict with the theory that primitive melody is based on the overtones of a given tone, since the principal overtone, beyond the octave, is the twelfth (octave of the dominant), not the sixth (submediant).

Before attempting to reconcile these theories, let us outline our subject more broadly. We have thus far considered music largely in its relation to individual expression; probably this was its original form, but in humanity of very primitive culture we find three phases of musical expression—personal, social, and ceremonial. Is it not possible that these three may be of different melodic development?

Having considered at some length the first of these phases, let us pass to a consideration of the second.

IV. SOCIAL MUSIC

Concerning the possible melodic development of social songs, I would refer to a paper by Dr W. Sabine, of Harvard University, entitled "Melody and the Origin of the Musical Scale," read before the meeting of the American Association for the Advancement of Science at Chicago in 1908. In it Dr Sabine reviewed the work of Dr Helmholtz, dwelling particularly on the fact that overtones are more apparent to the ear when a tone or succession of tones is sounded within a small enclosure, and noting that the richer melodic expression is found among the races inhabiting small dwellings.

Thus if we trace personal music back to the high tense note of love or grief, descending through intervals psychologically determined, we may also trace social melody to a gathering of people in some small enclosure where the overtones of drum or voice were discernible and in time constituted material from which melodies were constructed. Extended evidence is lacking to prove that these tones were grouped in the order represented by the modern major or minor scales. The Greek modes are the oldest authentic groups; in these the tone material corresponded approximately to that of the modern major scale, but the portions selected were such that only one of the three modes was similar to our major scale in the succession of its intervals, and that mode, like the other Greek modes, was thought *downwards*, so that the leading quality of the seventh was lost, this being one of the chief characteristics of the modern scale. These three modes were developed later into a complete system of fifteen modes. From these, Bishop Ambrose, in the Fourth Century, selected four to be used in the music of the Roman Church: none of these corresponded to either our major or minor scale. From these four, Pope Gregory, in the Seventh Century, developed the eight Gregorian tones on which Roman Church music is still founded. In one of these the tone succession corresponds to our major scale of C, but the tonic is F, — none is like our minor scale. Thus we see that the existence of the proper tone material does not of necessity imply its use in the form of major or minor scales or keys.

I quote again from *Magister Choralis*, by the Reverend Francis Xavier Haberl (p. 236): "Modern modes close with the chord of the dominant leading into the chord of the tonic, not so the old modes. Modern modes have a leading or sensible note, in the old modes you would search for it in vain. In modern pieces of music the close of each period and of the entire piece must be with the chord of the tonic, in Gregorian modes this is not necessary."

Also from M. Danjou in *Revue de Musique* for December, 1847: "Nothing is more complicated, more difficult, or more uncertain than the attempt to assimilate modern harmony with ancient tonality." However, Dr Haberl devised some very simple organ accompaniments for Gregorian chants, prefacing his book as follows: "We caution the organist against the mistake of regarding the flats or sharps in the beginning of the stave as the signature of our modern keys . . . they are placed there to preserve the original positions of the semi-tones of the mode and not to indicate a key."

The object of this digression is to show certain facts concerning the earliest recorded scale formation which may assist our analysis of Indian and other primitive melodies, the principal fact being that man possessed the tone material of the major scale many centuries before he established its present succession of intervals as his standard of tonality. Some Indian songs are unmistakably in the major key; others contain the tones of a major key, but no feeling of its tonality. So the old Greeks had one major scale and two others in which the same tones were used in a different sequence. With these precedents we need not be surprised if the tonality of an Indian song does not correspond with its signature: for instance, if a song apparently in the key of D fails to accord with an accompaniment composed of the principal chords of that key, showing no preference for its dominant chord and no desire to close with the chord of A followed by the chord of D. Such instances are rare, but the tonality of Indian songs is so difficult and perplexing a problem as to admit an hypothesis.

Passing from the musical to a more general aspect of primitive social music, I suggest as one of its earliest forms the conversational music in which the words are improvised. This music among the Negritos and Igorot was described in my study of Filipino music.

Dr J. R. Swanton found among the Tlingit of Alaska an "Angry Song" in which two men waged a war of words along the lines of a familiar tune, the man being considered the best singer who could most freely express himself in this way. Wallaschek records similar songs among the Damaras of Africa and Indians on the Klamath river in Oregon.

Such use of improvised words to a remembered melody would naturally precede the use of remembered words and a more organized social music.

V. CEREMONIAL MUSIC

Ceremonial music suggests a somewhat organized state of society in which a leader is appointed to express the thoughts of his followers. Among the Filipinos I found a phase of music in which the conversational form overlapped into ceremonial music; the song was similar to the Benedicite of the early Jewish Church, which is preserved to our own time.

A possible development of ceremonial music might be:

- 1st. Oral instruction or invocation.
- 2d. Metrical speech produced by prolonging certain words or syllables for effect.
- 3d. The chant, produced by changing from a modulated speaking tone to a singing tone.

The chant may be considered a characteristic form of ceremonial music: beyond this point the elements of social and personal musical expressions influence ceremonial music, producing hymns of personal or general import.

It seems reasonable to suppose that these three forms of musical expression may have existed when musical skill consisted chiefly in the ability to improvise. The development of music as an art is a different matter. Art is technic as well as beauty, and its expression must conform to certain established canons. Only in its highest expression is emotion allowed full sway. Music is still a means of expression, but it is governed by an intellectual mastery of underlying principles.

When the development of music as an art is begun, the experimental period of scale formation is ended.

RED WING, MINNESOTA.

SOME KUTENAI LINGUISTIC MATERIAL

By ALEXANDER F. CHAMBERLAIN

OUTSIDE of the text of six brief songs published by the present writer in the *Report of the British Association for the Advancement of Science for 1892*,¹ and a Pater Noster printed (with not a few errors) by Father De Smet in his *Oregon Missions* (New York, 1847, p. 409) and reprinted by Bancroft in his *Native Races* (San Francisco, 1886, vol. III, p. 620), the literature of the Kutenai language is confined to the vocabularies of Hale, De Smet, Howse, Wilson, Tolmie and Dawson, and the grammatical sketches of Boas,² and Chamberlain.³ The material given in this article is taken from the author's notes made in the field in 1891. It will demonstrate the characteristics of a language which, after prolonged investigation and comparison with other Indian tongues, must still be ranked as a distinct family of speech, a stock *sui generis*. The brief texts, with the exception of Nos. I and V, are portions of longer narrations. Besides these texts are given a number of sentences illustrative of some of the grammatical peculiarities of Kutenai.

I. A BRIEF TALE OF COYOTE AND GRIZZLY BEAR

(a) *Nāloθ' nē dja'is Shi'nkūts. Ōpōanē lā'ulās skā'sē. Kāluw' nē Skinkūts, "īyā! gātshā'lip."* *Kāk'ē' nē Āqkō'klākō'wōm, "Māts onē'lin!" ipic' nē lā'ulās Skinkūts. Tā'qas.*

(b) Coyote was carrying his younger brother on his back ("packing" him). He saw Grizzly Bear coming. Coyote thought, "Ah! I shall die (or be killed)." Said Cricket, "Be not afraid!" Coyote killed Grizzly Bear. End.

¹ *Rep. Brit. Ass. Adv. Sci.*, Edinburgh Meeting, 1892, pp. 561-563. Also in *Eighth Rep. on N. W. Tribes of Canada* (London, 1892), pp. 17-19.

² *Ibid.*, 1889, pp. 889-893, and *Fifth Rep. on N. W. Tribes of Canada* (London, 1889), pp. 93-97. Also *Rep. Brit. Ass. 1890*, pp. 693-715, and *Sixth Rep. on N. W. Tribes* (London, 1890), pp. 141-163 (vocabulary).

³ *Rep. Brit. Ass. 1892*, pp. 589-614, and *Eighth Rep. on N. W. Tribes of Canada*, pp. 45-70.

II. PART OF A TALE ABOUT MOSQUITO

(a) *Kanáqə G-ats'tsá'lá. Nū'pəanə sák' lá'námisinə. Ká'kíl'ē'l'nə, "lá'nə, lə́ āqk'ē' l'mā'k."* *Kak'ē'nə G-ats'tsá'lá, "Hə'tsk-áikinə."* *Tsináqə G-ats'tsá'lá. Nū'pəanə sák' lá'námisinə. Ká'kíl'ē'l'nə, "lá'nə, hintshalikiné sk-ə'mə."* *Kak'ē'nə G-ats'tsá'lá, "Hə'tsk-áikinə."* *Tsináqə G-ats'tsá'lá. Kanáqə G-ats'tsá'lá. Nū'pəanə sák' lá'námisinə. Ká'kíl'ē'l'nə, "lá'nə, hintshalikiné wá'n'mə."* *Káquáqə G-ats'tsá'lá. Níkinə wá'n'məs. Yū'nákə'psí nikinə. Wílsu'w'm'nə.*

(b) Mosquito was traveling. He saw a lot of houses. Somebody said, "Come, eat choke-cherries." Said Mosquito, "I don't eat (them)." Mosquito set off. He saw a lot of houses. Somebody said, "Come, you shall eat service-berries." Said Mosquito, "I don't eat (them)." Mosquito set off. Mosquito went along. He saw a lot of houses. Somebody said, "Come, you shall eat blood." Mosquito went there. He ate blood. He ate much blood. His belly swelled.

III. PART OF A TALE OF COYOTE AND THE WOMAN

(a) *Kanáqə Skinkúts. aqkəwúklḗt Yəquáqə. Nū'pəanə Pá'lkə. Táqas pá'lə nū'pəanə Skinkúts. Nonē'l'nə. Táqas nitqəmék. Táqas tsináqə Skinkúts. Nū'pəanə pá'lkəs ná'k-ə'nə. Ká'wá'w'nə kē'ps. Kak'ē'nə Skinkúts "Kápsin síllep. Hə'tsə'há'te kápsin síllep."* *Táqas tsə'há'te. K-á'pəanə kápsin síllep. Táqas tsináqə Skinkúts.*

(b) Coyote was traveling. He climbed up a mountain. He saw a Woman. The Woman saw Coyote. She was afraid. She lay down on her back. Coyote went off. He saw the Woman lying down. He thought that she was dead. Said Coyote, "Why is she dead?" "I will find out why she is dead." He examined (her). He did not find out why she was dead. Coyote went away.

IV. PART OF TALE OF COYOTE AND CHICKEN-HAWK

(a) *Kanáqə Skinkúts ásmá'l'nə Íntak. Kak'ē'nə Skinkúts, "Hə'tsiná'á' nə kóilnā'hák áqkətsə'má'kinék itkinə natánik."* *Ósmik Skinkúts Kak'ē'nə, "Hə'tshá'linə natánik."* *Kak'ē'nə Íntak, "Ósmik ká'mín."* *Kak'ē'nə Skinkúts, "Wáqə."* *Táqas tsináqə. Kanáqə. Kak'ē'nə Íntak, "Hintshá'hə'pá'l'ná'pinə."* *Kak'ē'nə Skinkúts, "Kápsin !"*

(b) Coyote was traveling together with Chicken-hawk. Said Coyote, "Let us go away, far from here, people are making the sun." First Coyote said, "I shall be the sun." Said Chicken-hawk, "I first." Said Coyote, "No." They set off. They traveled. Said Chicken-hawk, "You shall honor me." Said Coyote, "What (why)?"

V. A BRIEF TALE OF COYOTE AND FOX

(a) *Tsindq̄ Skinkuts. Nūp̄qan̄ Nā'k'yā. Kak'ṛ' nē Skinkuts, "Hāmātik̄tā s̄ltinis. Hōts̄s̄nālā' nē s̄wū'timō." Td̄qas Kak'ṛ' nē Skinkuts. Kak'ṛ' nē Nā'k'yā, "q̄. Hōts̄s̄nālā' nē s̄wū'timō." Tsindq̄. Kāndq̄. Ōp̄qanē āq̄k̄l̄s̄mākinēk yānōk'ā' nē āq̄k̄l̄s̄is. NāLnūkūp̄kā' nē.*

(b) Coyote set out. He saw Fox. Said Coyote, "Give me your blanket. Let us go as friends." Coyote said (this). Said Fox, "Yes. Let us go as friends." They set out. They traveled. They saw people (and) many houses. They ran away.

Noteworthy is the use of a present instead of a past tense in these tales. It enlivens them as does the "historic present" in English.

These brief specimens will serve to indicate the general character of the language, its sentence structure, narrative style, etc. The morphological and grammatical peculiarities, facts relating to word-composition and the like will be found discussed in the following vocabulary including all words used in the texts here cited:

1. *Āq̄k̄l̄s̄is*. Oblique case of *āq̄k̄l̄s̄' nām*, 'house' (house of somebody). The radical is *l̄s̄*. The *-is* (or *-es*) is a termination for oblique cases of the noun; *-nām* is a suffix having about the force of the English indefinite article.
2. *Āq̄k̄ōk̄l̄s̄wōm*. The word for 'cricket' resembles that for 'fly' (*āq̄k̄ōk̄ōwōm*), and both may contain the composition form of *āq̄k̄ōwōm*, 'belly.' Both begin also with *āq̄k̄*, the most common of all noun prefixes in Kutenai. The Cricket appears in several tales as the 'younger brother' (*āj̄s̄ nām*) or 'friend' of the Coyote.
3. *Āq̄k̄l̄s̄mākinēk*. This term for 'people,' 'Indians,' 'human beings,' contains the ethnic or locative suffix *-nēk* (or *nīk*), which signifies 'dwelling at,' 'people of,' etc. It appears in *Āq̄k̄'āmnīk*, 'people of *Āq̄k̄'ām*' (Ft Steele, B. C.); *Āq̄k̄l̄s̄k̄ unū' kinik*, 'people of the Columbia lakes,' etc.
4. *Āq̄k̄ōwōk̄l̄ēēt*. This word for 'mountain' contains the suffix *-l̄ēēt* occurring in several topographical terms, as, *āq̄kinūk̄l̄ēēt*, 'prairie,' etc., and perhaps also in *nām̄l̄ēēt*, 'echo,' *gōwīl̄ēētīnē*, 'it is far,' etc.
5. *Āsmā' nē*. This term for 'together' or 'in company,' of which another form is *nāsmā' l̄n'ē*, with prefixed *n-*, seems to be composed of *ās*, 'two,' the stem *mā' l̄*, and the verbal *'nē* (or *-inē*). The stems *mā' l̄* and *ās* occur, apparently, in *k'āsmā' l̄*, a term given by Dr Boas as signifying 'family' (all children included.)

6. *Djāis*. The objective case (*-is* or *-ts* marks the objective as well as the genitive and possessive) of *djānām*, 'younger brother,' and then in a more general way, 'friend.' The radical is *djā*.
7. *Gāts'tsāLā*. This word for 'mosquito' seems to contain part of the word *āpk-ōktsāLā' nām*, 'end of nose,' the radical of which is (*ōk*)*tsāLā*.
8. *GūtshāLip*. Composed of the radical *ip* or (*ɛp*), 'die,' 'dead,' *tshāl*, the sign of the future tense, further divisible into *ts* + *hāl*, and *gū*, pronoun of the first person in verbs.
9. *Hāmātiktcū*. Second person singular of the present imperative (give!). *Hāmātiktcū* seems to be used of things belonging to the one spoken to or under his control, in his hand, or upon his person. The *-ā* is suffix of the imperative (second person singular).
10. *HintshāLikinē*. Composed of *ikinē*, 'he eats'; *tshāl*, the sign of the future tense; and *hin*, pronoun of the second person singular, with verbs.
11. *HintshāLhō'lpālnd'pinē*. A good example of Kutenai composition. Made up of *hō'lpāl*, the radical of *nō'lpāl'nē*, 'he honors'; the verbal (*i*)*nē*; the verbal particle *-n-*; *tshāl*, the sign of the future tense; *hin*, the pronoun of the second person with verbs; *āp-* the incorporated object-pronoun of the first person. The word is thus made up: *hin* + *tshāl* + *hō'lpāl* + *n* + *āp* + *inē*. This word seems to be really the term for 'to hear,' — *nō'lpāl'nē*, 'he hears,' 'listens to.'
12. *Hō'ltshē'kāte*. This word consists of *tsē'kāte*, 'he looks at, examines, searches'; *hō*, pronoun of the first person singular with verbs; and the particle *z*, which seems to indicate the future tense or a desiderative form of the verb.
13. *Hō'ltshānāLā'nē*. 'We will go away' (or 'we will set out'). Future, or desiderative. Differs from *hō'ltshānāLā'nē* (q. v.) only in having *-L-* instead of *-ts*.
14. *Hō'tshāLinē*. Composed of the verb *inē*, 'is'; *tshāl*, the sign of the future tense; and *hō*, pronoun of the first person singular with verbs.
15. *Hō'tshā'āikinē*. Composed of *ikinē*, 'he eats'; the negative particle *k-ā*; *ts-*, a sign, apparently of the desiderative; *hō*, pronoun of the first person singular with verbs.
16. *Hō'tshānāLā'nē*. 'We will go away' (or 'Let us go away'). A form of the future or desiderative. Composed of *hō'tshānāLā'nē*, 'we go away,' with *-ts-*, sign of future or desiderative. The word

- hôtinałā'nē* is composed of *tsina(qē)*, 'he goes away,' *hō-nāłā*, 'we' (*hō* = 'I'), and the verbal *-nē*.
17. *Ilndhāk*. This word contains a suffix relating it to a number of adverbs, etc., such as *pikāk*, 'long ago,' *hōpāk*, 'first time, etc.'
 18. *Īnlāk*. The male Chicken-hawk (*Accipiter Cooperi*) figures in several Kutenai tales and is an important mythological personage. He is the companion of the Coyote in some of his exploits, e. g., the search after an attempt to make the sun.
 19. *Īpil'nē*. 'He kills.' Composed of *ip*, the radical for 'die,' 'dead'; *-l*, the particle making a transitive from an intransitive verb (as *ipinē*, 'he dies'; *ipil'nē* 'he kills'); and the verbal *inē*.
 20. *Itkinē*. 'He makes or does.' Probably 'he makes (or does) with the hand.' Composed of the radical *it*, 'do,' 'make'; the particle *-kin*, 'with the hand (or foot),' and the verbal *'nē*.
 21. *Īyā!* This interjection has about the force of English ah! or oh!
 22. *Kāk-ē'nē* (or *kāk-ē'inē*). 'He says,' 'he speaks.' Composed of the radical *k-ē*, 'speak,' 'say'; the verbal *'nē*; and the verbal particle *kā-*, seemingly belonging to the third person.
 23. *Kāk-ēlēl'nē*. 'Somebody speaks'; 'there is talking.' Contains the radical *k-ē* (or *k-ē*), 'speak,' 'talk'; the verbal particle *kā-*; the verbal *'nē*. The *lēl* is another verbal particle, having perhaps a sort of passive sense.
 24. *Kālwi'nē*. 'He thinks.' Composed of *lwi*, the radical of *āqhi-lwfnām*, 'heart'; the verbal particle *kā-*; the verbal *'nē*. The Indians located the mind, will, etc., in the heart. Hence *kālwi'nē* signifies 'he feels, believes, thinks, desires, wishes, wills,' etc.
 25. *Kāmin*. The separable, independent pronoun of the first person singular. Not used with verbs, but only as indicated in the text.
 26. *Kānāqē*. 'He goes, travels,' etc. Composed of the radical seen in many words signifying 'to go,' 'to come,' etc., such as, *tsināqē*, 'he goes off, sets out'; *lāqāqē*, 'he gets to, reaches'; *lātsināqē*, 'he goes off'; *wātāqē*, 'he crosses the mountains'; *wāqē*, 'he comes'; *kāqāqē*, 'he arrives'; and the verbal particle *kā-*. With this word *kānāqē* begin many of the tales. *Kānāqē Shinkuts*, "Coyote was going along," is as well known to the Kutenai as is to us "Once upon a time" in our own stories.
 27. *K'āpōqanē*. 'He does not know, does not see, does not understand does not find out.' Composed of *pōqanē*, 'he sees,' and the negative particle *k'ā*.
 28. *Kāpsin*. 'What,' 'why,' Also used in the sense of 'goods,' 'property.'

29. *Kēps*. A composite verbal form of *ēp* (or *ip*), 'dead,' 'die.'
30. *Kō*. 'Here.'
31. *Lāne*. Imperative second person singular, 'Come!' The verb "come," is irregular in conjugation. To *Lāne*, 'Come here!' corresponds the equally irregular verb *Lūnū*, 'Go away!'
32. *LūpLā*. The Grizzly Bear appears often in tales and legends. He is sometimes deceived by the Coyote. *LūpLās* is the oblique case in *-s*.
33. *Māts*. Negative particle used with the imperative and not incorporated in verbs like *kā*. Employed in such phrases as, *Māts kāmīn*! 'Not I!'; *māts klō'nē*, *Lō'nē*, 'Not *klō'nē*, but *Lō'nē*'; *māts itkinīn*! 'Don't do it!'
34. *Na'k'ā'nē*. 'She lies down.' The word is composed of the radical *ā'k'ā*, 'lie down,' the verbal prefix or affix *n-*, and the verbal 'nē.
35. *Na'k'yū*. The Fox appears sometimes as the competitor of the Coyote and succeeds in tricking him at last. He also plays tricks on the Wolf.
36. *NāLnū'kūp'ā'nē*. 'They run away' (or 'they run fast'). Composed of the stem *āLnū'kūp'ā*, 'run,' the verbal affix *n-*, and the verbal 'nē.
37. *NālQō'nē*. 'He carries on his back.' Composed of the stem *āLQō*, 'carry on the back,' the verbal affix *n-*, and the verbal 'nē. The stem *āLQō* is further divisible into *āL*, 'carry,' and the particle *Qō*, 'with (or on) the back'; and *āL* itself may be *ā*, 'go,' with the transitive suffix *L*, 'to carry' = 'to make go.'
38. *Natā'nik*. In Kutenai the sun (*natā'nik*) is regarded as a woman; the moon (*k'tsilmiyit natā'nik*, 'night sun') is a man. The Coyote appears as sun-maker, also the Chicken-hawk. The word *natā'nik* is now applied to 'clock,' etc.
39. *Nikinē*. 'He eats.' Composed of the radical *ik*, 'eat,' the verbal affix *n-*, and the verbal 'nē.
40. *NitQō'mēk*. 'Lies down on (her) back.' Composed of the stem *itQō*, 'do anything with the back,' the verbal affix *n-*, and the verbal suffix *-mēk*, of uncertain meaning. The stem *itQō* is separable into the radical *it*, 'do,' or 'make,' and the particle *Qō*, 'with (or on) the back.'
41. *Nōnē'L'nē* (or *nōnī'L'nē*). 'She is afraid.' Composed of the stem *ōnēL*, 'be afraid,' 'fear,' the verbal affix *n-*, and the verbal 'nē. The stem *ōnēL* seems to be composite, containing a prefix *ō*, seen in

such other verbal stems as *ōmāts*, 'laugh,' *ōwas*, 'be hungry,' *ōwōk*, 'rise,' etc., and perhaps also *ōpqa*, 'see'; and a suffix *l*.

42. *Nūpqañt*. 'He sees'; 'they see.' Composed of the stem *ōpqa*, 'see,' the verbal affix *n-*, and the verbal 'nt'. The word signifies both 'he knows' (or 'he understands') and 'he sees,' the Indians thus correlating knowledge and sight. The stem *ōpqa* is probably compound.
43. *Ōñlən* (or *ōñlən*). The second person singular of the present imperative, 'Fear thou!' The ending *-ñn*, *-ñn*, *-ñn*, is common in the imperative of certain verbs, as *ikñn*, 'Eat thou!' *ōwōkñn*, 'Get up!' The radical or stem of the verb is usually seen in the form of the imperative, as, e. g., *ik*, 'eat'; *ōwōk*, 'rise'; *ōñl*, 'fear.' See *nōñlññ*.
44. *Ōpqañz* (or *ūpqañz*). Differs from *nūpqañz* (q. v.) only in possessing the verbal particle *n-*.
45. *Ōsmik* (or *śsmēk*). Ordinal numeral adverb, 'first,' 'in the first place.'
46. *Pālkē*. 'Woman.' Also used in the sense of 'wife.' The indefinite form *pālkēnām* is still in use among the Lower Kutenai, but has been sometimes obsolete with the Upper Kutenai. *Pālkēs* is the oblique case in (*ē*)s.
47. *Qē*. 'Yes.' The general affirmative adverb, opposed to *wāqē*, 'no.'
48. *Sak' Lānāmisinē*. 'There is a village' (or 'there are many houses'). The word seems to contain, besides the stem of *śqk' Lānām*, 'village,' a verbal prefix *s-*, the verbal *inē*, etc.
49. *Silēp*. Composed of the radical *ēp*, 'dead, death, die,' and the modifying particle *sil*, of uncertain meaning (perhaps = 'very').
50. *Sitinis*. 'Thy blanket.' The radical *sit* (or *sēt*, *sīt*), 'blanket,' with the possessive suffix of the second person singular, *-(i)nīs*. The word *sit* is Upper Kutenai, the corresponding Lower Kutenai term being *Lāmāl*.
51. *Skāsē* (or *skāst*). This word seems to be a sort of infinitive or participle corresponding to *skāqē*, 'he comes.' The radical of the word is seen also in *wāqē*, 'he comes,' *Lāwāqē*, 'he returns,' etc. The *sk-* is probably a determinative verbal prefix, as, e. g., is *w-* in *wāqē*. See *kānāqē*.
52. *Skinkāts*. The Coyote is the chief figure in Kutenai mythology. He is the hero of many exploits and adventures, being partly culture-hero and partly trickster. He appears as sun-maker, etc.
53. *Sk-ōmō*. The berry of the service-bush (*Amelanchier alnifolia*),

- known as *sk-ōmōwōk-*, the *-wōk* = 'bush,' 'shrub,' 'woody substance.' Service-berries are much used as food by the Kutenai.
54. *Sūwūtīmō* (or *sōwūtīmō*). 'Friends' or 'as friends.' This word seems to be derivative of *sūwōnām*, 'friend,' with a suffix *-tīmō*.
 55. *Tā'qas*. This word, which is a common ending for tales and legends (*finis* of the Kutenai), signifies 'enough,' 'sufficient,' 'ended,' 'the place for stopping,' etc. It is also in use as a particle, indicating past or completed action in the verb. The regular verbal sign of the past tense, *mā-*, is rarely employed in the tales and legends.
 56. *Tse'kātē*. 'He searches,' 'looks into,' 'examines,' etc.
 57. *Wān'mō*. The word for 'blood' is one of the few terms for bodily organs, etc., which takes neither the common prefix *āqk-* nor the indefinite suffix *-nām*. *Wān'mōs* is the oblique case in *-s*.
 58. *Wāqā*. 'No.' The general negative adverb, opposed to *qē*, 'yes.'
 59. *Wīl-wū'm'nē*. 'His belly becomes large.' Composed of *wūm*, radical of *āqkōwōm* (or *āqkōwōm*), 'belly,' the radical *wīl*, 'large,' and the verbal 'ne.'
 60. *Yōquāqē*. 'Reaches the top, climbs up.' Composed of the particle *yō* (or *yū*), 'up,' 'on top,' and the verb seen in *kāquāqē*, 'he overtakes'—one form of composition with the radical *ā* (or *a*), 'go.' See *kānāqē*.
 61. *Yū'nōk-ā'nē*. '(There are) many.' One component of this word is the particle *yū*, 'up, on top' (cf. 'heap,' in English) and the last is the verbal 'nē'. This is an Upper Kutenai word, the corresponding Lower Kutenai term being *wā'iyē'nē*.
 62. *Yū'nōk-ā'psī*. 'Many.' Differs from *yū'nōk-ā'nē* in termination only, the last component being the suffix *-sī* or *-sē*.

As further illustrating the general character of the Kutenai language the following sentences are given :

1. *Il-ā'nē k-ā'tsāts*. The chipmunk cries (weeps).
2. *Sā'nē skinkūts*. The coyote is bad.
3. *Sā'kinē t'itk'at*. The man is good.
4. *Sū'kinē nātā'nik inlāk*. The chicken-hawk is (i. e., makes) a good sun.
5. *Sā'nīl-wū'nē skinkūts*. The coyote is angry.
6. *Kānāqē qastāiyā*. The skunk is traveling.
7. *Ikū'l'nē skinkūts*. The coyote drinks.
8. *Kā'usāk-ā'inē inlāk ā'qkī tēnāmōis*. The chicken-hawk and his wife are stopping.

9. *litak'atē'inē g'ānūqlā'm'nā.* The rabbit is a poor hunter.
10. *Ipinē k'ā'tsāts.* The chipmunk is dead.
11. *Nā'kōwlt' nē skinkūts ā'qkē k'ā'pi.* The coyote and the owl dance.
12. *K'ā'pē nip'kō litk'ā'tinē.* All black bears have no tails.
13. *Nā'lk'atē'inē nip'kō.* The black bear picks berries.
14. *Kānmē'yits tsqālwaqē ā'qkink'ā'k'ō yāktšmēz.* Tomorrow the steamer (fire-canoe) will come.
15. *Kin sū'nitqō'inē?* Are you sick?
16. *Ninē sūyā'pi.* It is a white man.
17. *Ā'qhikslā'in nā'tskālā'kinē.* The tree has large branches.
18. *Wilk'ā'inē lkā'mā.* The child is large.
19. *Honū'pqañ nā'usānmēyithē Pol.* I see Paul today.
20. *Ipil'nē kāk'in nēis mitskā'kas.* The wolf killed him the tomtit.
21. *Nālqō'nē djdīs skinkūts.* The coyote carries on his back his younger brother.
22. *Pisqō'nē yitskimīs.* He drops his pail.
23. *Nōnē'l' nē lāulās.* He fears the grizzly bear.
24. *Sākilālkh'ātē'inē filnāmōis inlāk sk'ōmōis.* The wife of the chicken-hawk picks service-berries.
25. *Nālqō'nē nā'hēks.* He carries on his back a basket.
26. *Ipil'nē nēis nāqanēs.* He kills him the caribou.
27. *Tcūkwa'tē nēis lāulās.* He seizes him the grizzly.
28. *Kānmē'yets wēl'nams mitqanē lāk'pās.* The next day early he shoots the buffalo-cow.
29. *Hōk'āikimē sinā.* I do not eat beaver.
30. *Wā'laquā mā'hōū'pqañis.* Yesterday I saw you.
31. *K'ā'ōnīl'nē k'ā'pēs k'ā'psin.* He is not afraid of anything.
32. *Piskinē k'ā'pēs ā'qhōklāntēs.* He throws off all his clothes.
33. *Kāk'ē'inē skinkūts mā'kūtslā'ket. kū'cwō.* Says the coyote: 'I loved my friend.'
34. *Kāk'ē'inē lāulā k'ā'inē sinā.* Says the grizzly bear: 'It is not the beaver.'
35. *Kāk'ē'inē skinkūts ninē sinā.* Says the coyote: 'It is the beaver.'
36. *Kāk'ē'inē skinkūts inē sinā ā'qhōtāls.* Says the coyote: 'It is beaver grease.'
37. *Kāk'ē'inē skinkūts hāmāfiktcū sitinis.* Says the coyote: 'Give me your blanket.'
38. *Kāk'ē'inē nāik'yū qē.* Says the fox: 'Yes.'
39. *Lāitqanō kāk'ē'inē skinkūts.* 'Bite me again!' says the coyote.
40. *Kāk'ē'inē piskinēn. Piskinē.* He says: 'Let go!' He lets go.

41. *Kāk-ēinē skinkūts hōtsqālīnē nātāmik.* Says the coyote: 'I am going to be the sun.'
42. *Kāk-ēinē skinkūts k'āpsin.* Says the coyote: 'What?'
43. *Kāk-ēinē hōninē skinkūts.* He says: 'I am the coyote.'
44. *Kāk-ēinē k-ūtsāts pīkāks ipinē kāmā.* Says the chipmunk: 'My mother is dead long ago.'
45. *Kāk-ēinē inlāk hōlpālnū.* Says the chicken-hawk: 'Hear me!'
46. *Kāk-ēinē skinkūts hōtshālīnē lkāmū.* Says the coyote: 'I will be a child.'
47. *Kāk-ēinē inlāk hīntshālhlōlpālndāpinē.* Says the chicken-hawk: 'You will honor me.'
48. *Kāk-ēinē āqkītsqēmākinēk sā'nē skinkūts.* The Indians say: 'The coyote is bad.'
49. *Kāk-ēinē hōnīpīl'nē k'ūpi.* He says: 'I kill the owl.'
50. *Kāk-ēinē kāk-ēn hōnīpīl'nē nāqanēs.* Says the wolf: 'I kill the caribou.'

The following vocabulary to these sentences includes words not appearing in the texts cited above.

1. *Āqki.* 'And.' Conjunction used in about the same way as English 'and,' 'also,' in such constructions as *Skinkūts āqki lāulā*, 'Coyote and Grizzly Bear,' "*kāmin*" *āqki* "*ninkō*," 'I and you'; *āqki ninkō*, 'you too.'
2. *Āqkink-ōk-ō.* 'Fire.' The radical is *k-ōk-ō*. The word contains besides the general prefix *āq(k)* and the determinative particle *kin*.
3. *Āqkītslāin.* 'Tree.' The stem *itslāin* seems to be composite. The particle *its* appears in *āqkītsk-āl*, 'bark,' *āqkītsk-ālāk*, 'branch,' etc. The essential radical of the word is *lāin*, with the prefix *āqk*.
4. *Āqkōklā'ntēs.* Oblique case in *ēs* of *āqkōklā'nt*. The stem is *ōklā'nt*, the essential radical, perhaps, *lā'nt*, with the prefix *āqk*- and *ōk* as modifying or determinative particle.
5. *Āqk-ōtāl.* 'Grease, fat, suet.' *Āqkōtāl* is the oblique case in *-s*.
6. *Glānūqlām'nā.* The chief components of this word for 'rabbit' are the radical of *kāmnūqlū*, 'white,' and *glā*, a prefix appearing in a number of animal names, such as *glākqō*, 'fish'; *glāklā*, 'duck'; *glānūkqō*, 'mountain-goat,' etc.
7. *Hōk-āikīnē.* 'I do not eat.' Composed of *ikīnē*, 'he eats,' *k-ā*, 'not,' and *hō*, pronoun of the first personal singular with verbs.
8. *Hōlpālnū.* Second person singular present imperative, 'hear thou (me),' 'listen to (me).'

9. *Hōninē*. 'I am.' From *inē*, 'he is,' and *hō-*, 'I.' See *inē*.
10. *Hō'nipil'nē*. 'I kill.' From *nipil'nē*, 'he kills,' and *hō-*, 'I.' See *ipil'nē*.
11. *Hōnū'pōanē*. 'I see.' From *nū'pōanē*, 'he sees,' and *hō-*, 'I.' See *nū'pōanē*.
12. *Ikū'l'nē*. 'He drinks.' It would seem as if this meant literally 'he eats water.' From the radicals *ik* (or *ēk*) 'eat,' *wū'ū*, 'water,' the transitive particle *l*, and the verbal 'nē.
13. *Īlā'nē*. 'He cries, weeps.' From the radical *īlā* (or *ēlā*), 'weep, cry,' and the verbal 'nē.
14. *Īnē*. 'He is.' The intransitive verb 'to be' in Kutenai is *i* (or *ī*), to which is attached the general verbal ending 'nē.
15. *Īpinē*. 'He is dead, dies.' From the radical *ip* (or *ēp*), 'dead, die,' and the intransitive verb *inē*.
16. *Ītqanō*. 'Bite me.' Second person singular present imperative of *itqanē* ('he bites'). The *-ō* (or *-ū*) is suffix of this mood and person in certain verbs. The stem *itqa(n)* really signifies 'to do something with the teeth,' from the radical *it*, 'to do,' and *qa(n)*, 'with the teeth.'
17. *K'āinē*. 'He is not,' 'it is not.' From *inē*, 'he is,' and *k'ā-*, 'not.'
18. *K'ā'k'ēn*. The 'Timber-wolf,' who often has tricks played upon him by the Coyote.
19. *Kāma*. 'My mother.' From the radical of *mā'nām*, 'mother,' with *ka-*, possessive prefix of the first person singular.
20. *Kanmēyit*. 'To-morrow.' The *-t* is an inflectional suffix. The *mēyit* appears in several other words, such as *āqkanmēyit*, 'every day'; *ā'tsilmēyit*, 'night'; *āqkilmēyit*, 'sky.'
21. *K'āōnū'l'nē*. 'He is not afraid of,' 'he does not fear.' From *ōnū'l'nē*, 'he fears,' and *k'ā-*, 'not.'
22. *K'āpē*. 'All,' 'every.' *K'āpēs* is the oblique case. *K'āpē k'āpsin*, 'everything.'
23. *Kāusāk'ā'nē*. 'He (it) is, stops, remains.' From *sāk'ā'nē*, 'stays, remains,' and the verbal prefix *kā-*.
24. *Kin*. 'Thou.' Interrogative pronoun of the second person singular. Used in such sentences and phrases as *Kininē Kitōndqā*, 'Are you a Kutenai?' *Nāqk'ān kininē k'ā'k'ēn*, 'Perhaps you are a wolf'; *Kintshālēk*, 'Do you want to eat?' *Kin ākōwīl?* 'Do you dance?'
25. *K'ūpi*. The Owl serves as a sort of bogey for children among the Kutenai. When children cry or are very naughty their parents will

- say to them, *Māts'ēlā'n, tshāltcūkwātsinē k'ūpt!* 'Don't cry, (or) the owl will carry you off!' The cry of the owl is said to be *kātskūkil pālāē* or *ktsilkinil pālāē*, the first of which signifies 'Charcoal woman.' The owl is a child-stealer, carrying children off in a basket on her back.
26. *Kū's'wō*. 'My friend.' From the radical of *sūwō'nām*, 'friend,' with *kū-* or *kō-*, the possessive prefix of the first person singular. *Kū's'wō* is syncopated for *kū sūwō*.
 27. *K'ūtsāts* (or *g'ōtsāts*). 'Chipmunk.'
 28. *Litā'k-ātē'inē*. 'He hunts poorly, is a poor hunter.' From *ā'k-ātē'inē*, 'he is strong,' and the privative particle *lit*, 'without, minus.' Apparently 'he is weak.'
 29. *Litk-ā'tinē*. 'He has no tail.' From the radical of *āqk-ā'tenām*, 'tail of an animal,' the verbal *inē*, and the privative particle *lit*.
 30. *Lkū'mū*. 'Child, young child.' The same termination appears in *tēl'nāmō*, 'old woman,' etc.
 31. *Lū'k'pā*. 'Female buffalo.' The name of the buffalo-bull is *nilt'sik*.
 32. *Mā'kōū'pānis*. 'I saw thee.' Composed of *ū'pānē*, 'he sees'; *mā-*, sign of past tense; *kō*, incorporative pronoun of first person singular; *-nis*, objective pronoun of second person singular.
 33. *Mā'kūtslā'kēl*. 'I loved him.' From the radical of *tslā'kēl'ne*, 'he loves,' with *mā-*, sign of past tense, and *kō*, incorporative pronoun of first person singular, 'I.'
 34. *Mitō'qanē*. 'He shoots.' Used now of gun as of bow and arrow. The midnight dance at Christmas, what is left of an old hunting-season ceremonial, is called *mitō'qaltēl'kēl*. The hammer of a gun is *kāmitō'qaltēl'emōl*, 'the instrument by which shooting is done.'
 35. *Mitskākās*. In Kutenai mythology the Tomtit is the grandson of the Frog. He kills the caribou, but is killed by the wolf.
 36. *Nā'hēk*. 'Vessel, or basket, of birch-bark,' 'kettle.' *Nā'hēks*, or *nā'hēkis*, is the oblique case in *-s*, *-is* or *-ēs*.
 37. *Nā'k-ōwīt'nē*. 'He dances, they dance.' From the stem *ākōwīt*, 'dance,' with the verbal prefix *n-*, and the verbal *-nē*. The word for 'dancing' or 'the dance' is *n-ā'k-ōwīt'nām*.
 38. *Nā'lk-ātē'inē*. 'He picks berries.' From the stem *āl'k ātē*, 'pick,' with the verbal prefix *n-* and the verbal *'nē*.
 39. *Nā'qanē*. 'Caribou.' The Caribou appears in several tales with the Coyote and the Wolf.
 40. *Nā'tsk-ālā'kinē*. 'Is (large) branched,' or 'has (many) branches.' From *ā'qitsk-ā'lāk*, 'branch,' with the verbal prefix *n-* and the intransitive *inē*.

41. *Nāusānmēyitkē* (or *nāhōsānmēyitkē*). 'To-day.' One chief component of this word is *-mēyit*, which occurs in *d'qkilmēyit*, 'sky,' *k'tsilēmēyit*, 'night,' etc. The first part may be *nā*, 'here.'
42. *Nēis*. 'Him.' The oblique case, in *-is*, of *nē*, the personal pronoun, 'he.'
43. *Ninē*. 'He is.' Differs from *inē* (q. v.) in having the verbal prefix *n-*.
44. *Nip'kō*. 'Black bear.' The Black Bear figures in the "Jonah-legend" of the Kutenai. The special name for the he-bear is *k'āpētēt*.
45. *Pikāks*. 'Long ago, long since.' The *-s* is inflectional suffix. *Pēkāk* or *pēkāk* has the suffix *-āk*, seen in several adverbs.
46. *Piskinē*. 'He lets go, throws away, thrusts away, kicks away.' Literally 'he puts away with the hand (or foot)'; from a radical *pis-*, the particle *kin*, 'with the hand (or foot),' and the verbal 'nē.
47. *Piskinen*. 'Let go.' The second person singular present imperative of *piskinē* (q. v.). The *-(ē)n* is imperative ending.
48. *Pisqō'nē*. 'He drops, throws off his back.' From a radical *pis*, with the particle *qō*, 'with the back,' and the verbal 'nē.
49. *qāstāiya*. 'Skunk.' This is a Lower Kutenai word, the corresponding Upper Kutenai word being *qā'qas*, of which the first part of the Lower Kutenai term is probably a syncopation.
50. *Sāhīlā'kāt'īnē*. 'She picks berries.' The chief component is *ak'ā'tē*, 'pick berries.' See *nā'lk-ā'tēinē*.
51. *Sā'nitqō'inē*. 'He is sick.' Composed of the radical *itqō*, 'body,' *sān* (or *sāhan*), 'bad,' and the intransitive *inē*. Literally 'bad-bodied is he.'
52. *Sā'nitwō'nē*. 'He is angry.' Literally 'bad-hearted (or bad minded) is he.' From the radical of *d'qkītwō'nām*, 'heart, mind,' *sān*, 'bad,' and the intransitive, *inē*. See *kāt'wō'nē*.
53. *Sā'nē* (or *sā'hānē*). 'He is bad.' From *sān* (or *sāhan*), 'bad,' and the intransitive *inē*.
54. *Sinā*. 'Beaver.' Beaver-grease was a great dainty and is frequently mentioned in the tales. Beaver appears in a tale with Turtle, who tricks him.
55. *Sū'kinē*. 'He is good.' From the radical *sūk*, 'good,' and the intransitive *inē*.
56. *Sūyā'pī*. 'White man.' Possibly a borrowed term (cf. Nez. Percé *sūāpo*). Another word for 'white man' used in the tales is *nūlā'kinē*, i. e., 'stranger.' In the Kutenai tales the white man is often the butt of wit and sarcasm.

57. *Tcūkwa'tē*. 'He seizes, takes hold of, gets, fetches.'
58. *Tilnā'mō*. 'Old woman.' Used also (cf. our own English) in the sense of 'wife.' The final suffix seems to occur in *Lkāmū*, 'child,' and some other words.
59. *T'itk'at*. 'Man.' Also used in the sense of 'husband.' This is the Upper Kutenai form, the Lower Kutenai preferring *t'itk'ā'tenām*.
60. *Tshālwaqē*. 'It will come.' Composed of *wāqē*, 'it comes,' with *tshāl*, the sign of the future tense.
61. *Wā'louā*. 'Yesterday.'
62. *Wil'k'ā'inē*. 'He (or it) is big, large, tall.' From the radical *wil*, 'large,' with the suffix *-k'a*, which appears in several adjectives; and the intransitive *inē*.
63. *Wilnām*. 'Early.' The first component is possibly the radical *wil*, 'large, big.'
64. *Yāktš'ō'mēl*. 'Canoe, boat.' The *-mēl* is instrumental suffix. The term 'fire canoe' for 'steamboat' is a common one among Indian tribes, there being many equivalents of the Kutenai *āqkink'ō'k.ō yāktš'ō'mēl*.
65. *Yitskim'is*. 'His pail,' — properly a vessel or 'kettle' of woven grass or split willow. *Yitskim'is* is the oblique case in *-is*, of *yitskimī*.

The alphabet used in this article is that employed by the author in the *Report of the British Association for the Advancement of Science* for 1892.

CLARK UNIVERSITY,
WORCESTER, MASS.

SOME PLANT NAMES OF THE UTE INDIANS

By RALPH V. CHAMBERLIN

WHILE among the Gosiute Indians in the spring of 1901, the writer made the acquaintance of a Uinta Ute, named Tungaip, who had taken up a temporary abode there because of factional trouble among his own people such as to make his absence from them necessary to his safety. From him I secured the partial list of plant names herewith presented. The paper is now published in this preliminary and tentative form only because I do not foresee the opportunity to extend and elaborate or otherwise to better it, and in the hope that it may prove of some interest or aid to others. The names were obtained almost exclusively at the time mentioned from the now lamented Tungaip. With a few exceptions they have not been tested through others of his tribe, and some errors may therefore occur, especially in the case of the less familiar species.

The Ute proper held the richer game portions of Utah and adjacent parts, and were to a much greater degree hunters, and more warlike, than most of the relative tribes. Their dependence upon the vegetable kingdom was, naturally, less intimate than with such tribes as the desert-dwelling Gosiute,¹ though no doubt a complete list of all kinds of serviceable plants among them would prove large.

As compared with some related dialects, the language, among other things, appears to show a more frequent development of *v* in place of *b*, especially in the nominal endings, and of *r* in place of *t* or *d*. For example, *-ûp* is heard as *-ûv*, *-av*, and *-tv*, depending on phonetic relations. The syllables *-go-ûp*, and *-gi-ûp*, sometimes heard as *-gwûp* or *gwûp*, in Ute become *-go-ûv* or *-gi-tv*, thus easily passing to *gwûv* or *-gwûv*, in which form most commonly heard.

¹ This name is not derived etymologically from the name of chief Goship as is so often suggested. Goship was chief over a band of closely related Indians, but not over the Gosiute proper. The name is compounded from *kûstip*, or *gûstip*, meaning primarily 'ashes,' and hence, secondarily, 'parched or dry earth,' 'desert earth,' etc., and Ute; i. e., rendered freely, the name may be said to mean 'Desert Ute.'

This is in line with a general phenomenon resulting from a strong tendency in the language toward an easy or gliding phonetic softness. The phenomenon as it appears to me is in the frequent suppression of syllables and letters, especially of vowels. In some cases vowels are heard very lightly and in others not at all. This results in the accumulation of consonants, of which illustrations are given among the examples below. There would seem to be a more frequent shifting of the primary accent to the second syllable, or, more rarely, to the third.

Examples of apparent condensation are :

kwəʔuv, oak, corresponds to Shoshoni and Gosiute *kwəʔ ni up*.

paŋwaʔuv, maple, corresponds to Shoshoni and Gosiute *paʔgwi ni up*.

tuʔca-gar, white, is frequently heard as *tear* (cf. following word also).

tsaʔ-kām, white rabbit, cottontail, is probably derived from the preceding word *tuʔca-gar*, meaning white, and *kām*, rabbit.

kʔsa-ka-nav, or *ksa-nav*, a species of willow, from *kuʔ-tsi-*, ashes, hence gray, etc., in reference to the pubescent covering, or in some plant names to the dryness of habitat, and *ka-nav*, general term for willow. The corresponding Shoshoni and Gosiute word is *kuʔtsi-si-o-pi*; *siʔ-o-pi*, or *shiʔ-o-pi*, in these languages corresponding to *ka-nav*.

kai-stv, Cornus or kinnikinnick, corresponds to Shoshoni *ānʔka-sib*.

Other cases similar to those above given occur in the subsequent list of plant names.

From such comparisons and study as I have made, the conclusion would seem justified that the primary roots of the Ute language are monosyllabic or largely so, as they are in the Gosiute. While a discussion of this subject cannot properly be entered upon here, some of the particles and combinations more frequently occurring in the plant names presented, more especially in the terminations, may be discussed briefly. Various examples of primary roots will be indicated in the analyses of words selected for illustration below :

- (1) *b, p, v*. — Indicating, in general, substance or material in nouns; in verbs occasionally indicating the production of a material thing; sometimes giving a participial or adjectival effect. Far most common as the noun ending, indicated in the following :
- (2) *-āp, -ūv*. — A nominal ending added to verbs and indicating in

general the substance or material involved ; hence object or thing in general. For example :

o-pin-go-ûv (-*gwuv*), fence (of wood) : *o-pi*, wood, + *n*, adjectival ending, q. vid., + *gv*, verbal root meaning to enclose or surround, + *-ûv*.

tik-ûp, food : *tî-ki*, eat, + *-ûv* ; hence, material to eat.

to-tî-va-wûv, hair of head : *to-tî-in*, head, + *wu*, thread or hair-like object, hence hair in general, + *-ûv*.

ko-nov, sack : *gv, kv*, root meaning to enclose or to surround, as indicated under the first example, + *no*, root meaning to carry, move, etc., + *-ûv*.

tîm-bi-ûv, bridle : *tîm-bi*, mouth, + *-ûv*.

It is a common ending in plant names, as may be seen from an examination of the general list given later. In these names it has practically the meaning of "plant" in many cases. In some of these it is evidently the representative of *o-pi*, wood, tree, or plant, rather than of *ûp* as in the case of *sho-av*, cottonwood, corresponding to Gosiute *so'-o-pi*.

(3) *-ûmp*. — A nominal ending indicating, in most cases, material or substance of service or use. In plant names it hence generally indicates the plant or plant product as useful for food. Its general use in this connection may be indicated by the Gosiute word for oats, *o-at-ump*, which appears to be simply the English word with *-ump* added.

The particle seems doubtless a development of *-ûm* or *-m*, and *-ûp* ; i. e. of the combination *-ûm-ûp* or of *-mûp*. *ûm* or *-m* following or added to a noun or noun group has a possessive or adjectival effect. By transliteration *-ûmp* is derived. This may be seen, for example, in the Gosiute word for currant (the berry), which corresponds closely to the Ute, but is given because better known to me in its changes. This word is *po-gon-ûp*, but quite as frequently is heard as *po-gûmp*. Hence it will be easily seen why *-ûmp* is primarily added to other nouns, in contrast with the preceding ending, *-ûp*, which is primarily added to verbs, and also how, in most cases where it would primarily be used, the force would be to indicate material of service. The suffix is far most common in the combination indicated under (4). Examples :

po-gûmp, currant (the berry). The name for the plant as a whole is *po-gomp-iv*, this being a good illustration of the point made previously that in plant names the ending *-ûv* (*-iv*) has often the force of "plant."

ku-si-a-kûmp, balsam-root: *ku-tsi-*, gray, ashen, in reference to the dense coat of hair on the plant, + *a-ka*, stalk, shoot, etc., + *-ûmp*. The young shoots, leaves, and their petioles, of this plant were formerly eaten.

to-ûmp, service-berries.

- (4) *-nûmp*. — A development of the preceding, consisting of that in combination with *na*, a particle primarily added to a verb to indicate means or instrument, *-na-ûmp* becoming condensed to *-nûmp*, which in turn has become an integral suffix. It indicates instrument or means. Rarely it is used like *-ûmp* or even *-ûp* where euphony is obtained thereby. Examples:

ka-ri-nûmp, chair or saddle: *ka-ri*, sit down, + *-nûmp*.

ti-ki-nûmp, table: *ti-ki*, eat, + *-nûmp*.

ta-bi-nûmp, clock: *ta-bi*, sun, + *-nûmp*.

ta-gi-nûmp, stirrup: apparently from *ta*, particle indicating the foot or relation to it (nasalized, as is commonly so with vowels before *g* or *k*), + *gi*, verbal particle indicating pressing or thrusting into, + *-nûmp*.

- (5) *t, d, r*. — As an ending indicates quality, condition, or relation, and hence primarily is adjectival. It is a common adjective ending, such adjectives being sometimes used as nouns representing things having the qualities indicated. It is the ending in a number of plant names. Examples:

añ-kar, red. (And so with other names of colors. Cf. the Gosiute and Shoshoni ending in the equivalent *t*, in the combination *-bit*: as, *añ-ka-bit*, red, *tu-o-bit*, black, etc.)

ta-kar, black.

at, good.

a-bat, great.

tin-zi-ér, hard.

na-ri-ént, strong.

ku-bér-ant, long, tall.

kwa-nar, *kwa-na-ri*, smelling, stinking.

pu-ner, *pu-ne-ri*, looking, seeing, vision, adj. Cf. *pu-ni-he*, see;
pu-ne-ri-nūmp, field-glass, i. e., 'vision instrument.'

kwi-o-kint, (1) circular, (2) circle: *kwi-o-kin*, to move or make
 move in a circular path, etc., + *i*.

ti-ga-kint, (1) touching, bordering, (2) boundary-line: *ti-ga-kin*,
 to put against, to touch, to border, + *i*.

- (6) *-te*, *-ts*, *-ds*. — A common ending in the names of plants and animals, seeming quite generally to indicate an object living or regarded as living, a person or part of a living thing or person. The usage may be indicated by the word for mule, *mu-rats*. This seems to come from the English word mule, the *l*, which does not occur in Ute, being replaced by *r* (cf. *ka-va*, horse, apparently from Spanish caballo, the *ll* here being wholly dropped) and *ts* added. It is a very common ending in plant names, perhaps that most frequent. Examples:

<i>a-ran-gūte</i> ,	locust.	<i>ūwits</i> ,	plover.
<i>o-nūm-būte</i> ,	badger.	<i>ai-peds</i> ,	boy.
<i>sa-rīte</i> ,	dog.	<i>to-wats</i> ,	man.
<i>ta-būn-dsīte</i> ,	fox.	<i>na-ni-peds</i> ,	old man.
<i>yūm-būte</i> ,	porcupine.	<i>pi-ads</i> ,	mother.
<i>no-vīnte</i> ,	person, Ute.	<i>pu-rēts</i> ,	arm.
<i>wan-dsīte</i> ,	antelope.		

It may be found that *ats* (*ēts*, *āts*), occurring so frequently as an ending in Ute plant names, is in some cases to be regarded as integral (secondarily) and as alone the name or as having been the name of a particular plant, as is the case in Gosiute. Here it is applied to species of *Amarantus*, useful as food, and is made terminal in names of some plants thought to resemble this one in appearance or use.

- (7) *-m*, *-n*, *-ūm*. — Following a noun indicates possession or relation or gives the effect of an adjective to the noun to which added. Examples:

o-pim-go-ūv, fence: *o-pi*, wood, + *m*, + *go*, + *ūv*. (Vid. ante under *ūp*.)

ka-bam-si-ta-gwiv, horse medicine: *ka-ba*, *ka-va*, horse, + *m*, + *si-ta-gwiv*, medicine.

sa-gwam-si-ta-gwiv, *Abronia fragrans*, which is used as a stomach medicine: *sa-gwa*, stomach, + *m* + *si-ta-gwiv*, medicine.

sim-pim-ûv, *Cystopteris fragilis*: *sim-pi*, rock, + *ûv*, i. e. rock (loving) plant.

simp, *simpi*, mouth: *si*, root meaning to strike or force into, cut into, and hence to bite; thus pertaining to a cutting object, + *m*, + *bi*, meaning part of a living body, etc. (Cf. the following, and also the combination *-bite*, rare in Ute but common in related dialects.)

namp, *nam-pi*, foot: *na*, thing beneath or supporting, bottom part, etc., + *m*, + *bi*, as in the preceding.

LIST OF PLANTS ACCORDING TO SCIENTIFIC NAMES

Abronia fragrans Nutt. Sand Puff. *sa-gwam-si-ta-gwiv*: apparently *sa-gwa-*, stomach, + *si-ta-gwiv*, medicine. The roots and flowers said to be used as a remedy in stomach and bowel trouble. The name is probably not specific, and will likely be found to be applied to other plants put to similar medicinal use.

Acer glabrum Torr. Maple. *pa-wai'-ûv*: *pa*, water, + *kwi-ûv*, oak.

Achillea millefolium L. Yarrow. *i-am'-si-ta-gwiv*: *i-a*, wound, etc., + *m*, + *si-ta-gwiv*, medicine. Applied externally on bruises, etc., and also used as a tea in cases of sickness.

Agropyrum repens Beauv. Blue-joint. ? *wai-*.

Allium bisceptrum Watson, **acuminatum** Hook. Onion. *kûn-ka*. Bulbs and leaves eaten.

Amelanchier alnifolia Nutt. Service-berry. *to-ûmp*. Berries were formerly an important food, being used in season and also preserved by drying for winter. Cf. Shoshoni and Gosiute *ti-ûmp*.

Amsinckia tessellata. *tu'-ka-rûmp*. Cf. the Gosiute *ku-ni-ro-ûmp*.

Antennaria dimorpha Torr. and Gray, etc. Everlasting. *tim'-pin-tsau-ûv*: *sim-pi*, rock, + *n*, + *tsau*, submerge, cover under, etc., + *ûv*; i. e., apparently, rock-matting plant.

Arabis holboellii Hornem. Rock Cress. *qta'-ko-mav*.

Artemisia tridentata Nutt. Sage-brush. *ma-av*; *ma-ap*. Leaves used in decoction as medicine.

Asclepidiora decumbens Gray. Milkweed. *sa-na'-ko-mav*.

Aspidium filix-mas Schwartz. Wood Fern. *kai'-ban-kim-bis*: *kai-ba*, mountain, + *n*, + *kim-hia*.

Astragalus iodanthus Watson. Buffalo Bean. *ti'-wi-pi-tchûm-av*: probably from *ti-wip*, earth, + *tsu*, *tsu*, press, press over, etc., + *m*, + *ûv*; i. e., likely meaning earth or ground-matting plant.

Balsamorhiza sagittata Nutt. *ku-si'-a-kûmp*: *ku-si-*, from *ku-tsip*,

ashes, hence meaning gray or whitish, in reference to the whitish covering of pubescence so conspicuous in this plant, + *a-ka*, shoot, etc., + *-ûmp*. The young shoots and leaves were formerly eaten, hence the name. The roots also were eaten to some extent.

Beckmannia erucæformis Host. Slough Grass. *a-waf-ô-gwiv*: *a-waf* + *ô-gwiv*.

Berberis repens Lindl. Oregon Grape; Barberry. *kûp-o-a-ats*.

Betula occidentalis Hook. Birch. ? *pa-gwa'-ûv*.

Calochortus nuttallii Torr. and Gray. Sego. *s'go*. The bulbs of this plant were formerly much used as food. The Gosiute and Shoshoni name is identical.

Capsella bursa-pastoris Moench. Shepherd's Purse. *mô-tên-de-âts*. Introduced into the region.

Capsella divaricata Walp. Shepherd's Purse (native). *mô-tên-de-âts*.

Carex jamesii Torr. Sedge. *pî'-gwûts* (prob. *pa'-gwûts*).

Castilleja parviflora Bong. Painted-cup. *mô-tên-dît*. Root used as a medicine in bowel trouble.

Caulanthus hastatus Watson. *añ-ga-ko-rimp*.

Citrulus vulgaris (cultivated). Watermelon. *shan-ti-kût*.

Claytonia caroliniana Michx. Spring Beauty. *tî-bi-wu-tû-k*. Formerly the bulbs were eaten extensively.

Collinsia parviflora Dougl. *mî'-pû'-ga-shi''-êts*. Plant said to have been used externally as a remedy for sore flesh, like *Gilia*, q. vid.

Commandra pallida A. DC. Bastard Toad-flax. *sa-gwa-si-û'-gûts*. Roots used as a medicine in headache, etc.

Cornus stolonifera Michx. Kinnikinnick; Cornel. (1) *kaî'-siv*; (2) *a-va-tu-tûm-bûts-ûm-av*. Cf. the Shoshoni *añ-ka-sib*, this name referring to the red bark ("red willow," probably). The Ute name seems to be condensed.

Cowania mexicana Don. Cliff Rose. *pu-i'-tcûm-av*.

Cymopterus longipes Watson. *o-an-tûv*. Leaves formerly boiled and eaten as food. It seems probable that the Shoshoni name for this plant, *toî'-yan-dûp* (*toî'-ya-bi*, mountain, + *n*, + *dûp*), preserves most nearly the original form, and that the Ute *o-an-tûv* and the Gosiute *an-dûp'* are abbreviated.

Cystopteris fragilis Bernh. Fern. *tim-pim-ûv*: *tim-pi*, rock, + *m*, + *ûv*.

Delphinium menziesii DC. and *bicolor* Nutt. Larkspur. *sa-gwa-rint*.

Draba nemorosa L. Whitlow Grass. *kus-pa-sen-di-ât*.

Eleocharis palustris R. Br. Spike-rush. *pa-ô'-ga-da-pin-tid*: *pa-o*, referring to water, + *ga-da-pin-tid*.

- Elymus canadensis** L. Lyme Grass. *o-do-rûm-biv*. Seeds formerly gathered as food.
- Eragrostis purshii** Schrad. *kaib'-o-gwiv*; *kai-ba*, mountain, + *o-gwiv*.
- Erigeron canus** Gray. Fleabane. ? *sa-gûm-si-ta-gwiv*.
- Eriogonum ovalifolium** Nutt. Silver-plant. *k'sâm-sêd-au-ge-êts*: probably from *ku-tsâm*, ashen, gray, etc., + *sêd-añ-ge-êts*. Used as medicine.
- Equisetum arvense** L. Horsetail. (a) fertile stems, *tu-ko-wûts*; (b) sterile stems, *to-tsi-wûts*.
- Equisetum laevigatum** Braun. Scouring-rush. *ya-a'-ti-nûmp*. Likely from *ya-a-gi*, cry, call out, etc., + *t*, + *nûmp*, instrument, etc., in reference to its use by children as whistles.
- Eragrostis purshii** Schrad. *kaib'-o-gwiv*.
- Erodium cicutarium** L'her. Storks-bill; Alfilaria. *pa'-bo-i-âts*.
- Erysimum asperum** DC. *sa'-go-a''-sint*
- Ferula multifida** Gray. *to-tûv*. The root furnishes one of the medicines most highly valued among this and related peoples. It is especially applied externally upon wounds and bruises, being first reduced to a pulp between stones or in a mortar. It is also used for distemper in horses; for this purpose it is burned in a pan held beneath the horse's nose.
- Fritillaria atropurpurea** Nutt. Tiger Lily; Brown Lily. *ku'-rûm-si-ta-gwiv*. The bulbs and roots used as medicine in the form of a decoction. It is said to be taken but sparingly because in larger quantities it is regarded as dangerously poisonous.
- Fritillaria pudica** Spreng. Buttercup; Yellow Bell. *pin'-i-kwi-êts*. Formerly the bulbs were used as food.
- Gilia gracilis** Hook. *yo-gûm-si-ta-gwiv*; *yo'-gu-vite*, coyote, + *m*, + *si-ta-gwiv*, medicine. Used as a poultice on bruised or sore leg. In this connection cf. the Shosnoni name for this little *Gilia*, so abundant in the region: *i-am-bîp*, the first part of which would seem to refer to wound.
- Glaux maritima** L. Sea-milkwort. *tsûn'-a-na-di-êts*.
- Grass (general term). *o'-wiv*.
- Grayia polygaloides** Hook and Arn. Shad Scale. ? *sa'-mûv*.
- Grindelia squarrosa** Dunal. Gum-plant. *ku-ats-ûm-si-ta-gwiv*: *ku-ats* + *ûm*, possessive, + *si-ta-gwiv*, medicine. Said to be used as a cough medicine. Cf. Senecio.
- Gutierrezia euthamiae** Torr. and Gray. Lesser Rabbit Brush; Torch-weed. *shpûmp*.

Hedysarum mackenzii Richard. *kai-va-ma-mû-tea-kwûv*; *mô-têm-be-itch*: *kai'va*, mountain, + *mi*, + *mu-tea-kwûv*. Roots said to be used as medicine.

Hydrophyllum capitatum. Waterleaf. *o-a'îm-bi-îts*.

Iva axillaris Pursh. *ta-m-îs'-ta-gwûv*; *ta-ma-si-ta-gwûv*; *ta-ma* + *si-ta-gwûv*, medicine. Occasionally used as medicine.

Juncus balticus Deth. Bog-Rush. *pau-wûv*. Corresponding to the Shoshoni and Gosiute name for the same plant, *pa'hwap*, also heard more fully as *pa'-ûm-ûp*: *pa-ûm*, aquatic, + *ûp*.

Juniperus californica var. **utahensis**. Cedar. *wap*. The name is probably from *wa-ap*, meaning, in some dialects (e. g., Shoshoni), to burn, the reference probably being to the use of the bark, etc., in making slow-match and for kindling purposes.

Krynitzkia sericea Gray. *yu'-bi-shad-ûmp*. Root used as stomach medicine.

Lathyrus ornatus Nutt. Everlasting Pea. *sa-gwa'-sa-înt*.

Lepidium intermedium Gray. Pepper-grass. *sau'-ga-mi-ants*.

Lepidium sativum. Pepper-grass. *wa'-to-ma-siv*.

Lithospermum pilosum Nutt. Gromwell. *tsât-kûp*. Roots used as medicine in form of decoction; diuretic in action. I have seen it used by an old couple for this purpose.

Lonicera utahensis Watson. Woodbine. *te-îd-kav*: *te-a*, *ti-a*, deer, + *kav*. Cf. the Gosiute name for this plant: *parri-ên-di-kûp*, meaning elk food.

? **Malvastrum munroanum** Gray. False Mallow. *sa-gwûn-na-ga-ats*.

Matricaria discoidea DC. May-apple. *(ma)-mo-a-na-nûmp*. Used as a medicine.

Orogenia linearifolia Watson. *pin'-ka-pai-âts*.

Pachystima myrsinites Raf. Box. *te-i-kav*. Cf. *Lonicera*.

Pentstemon glaber Pursh. Beard-tongue. *mû-te'm-bi-a*.

Phacelia menziesii Torr. ? *(ma)-mû'-têm-bi-a*.

Phlox longifolia Nutt. Phlox; Sweet William. *(mo)-mu'-kwi-îts*.

Pinus mojophylla (nuts of). Pine-nuts. *ti-va*.

Populus angustifolia James. Cottonwood. *sho-av*: *sho* + *av*, from *o-pi*, wood. Cf. Gosiute *so-o-pi*.

Potentilla anserina L. Five finger. *qté-ân-giv*.

Pteris aquilina L. Bracken. *kai-ban-kim-bis*: *kai-ba*, mountain, + *n*, + *kim-bis*. See also *Aspidium filix-mas* Schwartz.

Quercus undulata var. Rocky Mountain Oak; Scrub Oak. *kwi'-ûv*.

The Gosiute form is *kwi-ni-ûp*, and is sometimes heard as *ku-ni-ûp*.

- Ranunculus aquatilis** L. var. Buttercup. *paí'-a-pu-íts*.
Ranunculus cymbalaria Pursh. Buttercup. *pau-ús-a-nau-ga-ant*.
Rhus aromatica Ait. var. **trilobata** Gray. Sumach; Squaw-berry. *mo-tam-bi-áts*. The berries, are eaten.
Ribes aureum Pursh. Buffalo or Missouri Currant. *po-gomp'-ív*: *po-gomp*, currant (the berry), + *ív*. Berries used as food.
Rosa fendleri Crepin. Rose. *añ-ga-si-úñ-giv*: *añ-kar*, red, + *si-uñgen*, stem, etc., + *uv*. Berries sometimes eaten.
Salix amygdaloides Anders., **lasiandra** Benth., var., and **cordata** Muhl. *k'sa-nav*; *k'sa-ka-nav*: *ksa*, probably shortened from *ku'-tsi*, ashen, grayish, etc., + *ka-nav*, willow. Used in basketry, etc.
Salix flavescens Nutt. Willow. *ta-ma-númp-in-av*; *ta-ma-númp-in-ka-nav*.
Salix longifolia Muhl. Willow. *k'a-nav*. Used in basketry, etc.
Scirpus validus Vahl. Bulrush. *í-su-saip*. Lower, tender portions eaten.
Senecio sp. Groundsel. *ko-ats-ím-si-ta-gwiv*: *ko-ats*, + *ím*, possessive, + *si-ta-gwiv*. Used as medicine. Cf. Grindelia.
Shepherdia argentea Nutt. Buffalo-berry. *añ-gút-a-gwiv*. Berries formerly used as food to some extent.
Shepherdia canadensis Nutt. *ta-ma-númp*.
Sisymbrium canescens Nutt. Hedge Mustard. *po-é'-tsem-én*. Used as medicine.
Smilacina amplexicaulis Nutt. False Solomon's Seal. *yo-gwo'-ta-ma-númp*: *yo-go-vite*, coyote, + *ta-ma-númp*. Cf. the Gosiute *i-tcu-pain-po-go-núp*, from *i-tcu-pa*, coyote, + *n*, possessive, + *po-go-núp*, berry, i. e., 'coyote berry.'
Solanum tuberosum (cultivated). Potato *tsiñ*. Transferred from the name of a native plant.
Streptanthus cordatus Nutt. *o-nún-ga-ats*.
Taraxicum officinale Weber. Dandelion. *(mo)-mún'-ti-ad-qsáp*.
 Leaves formerly used as food. Cf. the Shoshoni *mú-ta-gi-a*.
Tellima parviflora Hook. *añ-gai-ya-ga-ti-númp*.
Trifolium, general term. Clover. *mó'-pi-ánts*; *mú'-pi-ánts*.
Trifolium pratense L. (introduced). Red Clover. *?sa-gwoa-in-di-úp*.
Triglochin maritimum L. Arrow-grass. *pa'-sau-wo-dint*.
Troximon sp. *añ'-ka-pi-sa-wats*. Leaves formerly eaten, like the dandelion.

Valerianella congesta. *āh-go-i-ēnts.*

Veronica aggerata Speedwell. *pu'-i-ants.*

Vicia americana Muhl. Vetch. *ka-na-tē-ānts*; *pu-i-pi-ūm-av*: *pu-i-pi*, blue, + *ūm*, + *av*. The second name refers to the blue or purplish flower and is probably general.

Viola beckwithii. Wild Pansy. *ka-bam-si-ta-gwiv*: *ka-ba*, horse, + *m*, + *si'-ta-gwiv*, medicine.

Viola canina L. var. *sylvestris* Regel. Violet. *sau'-o-ma-ānts.*

Viola cucullata Ait. Violet. *sau-ēd-in-do-ēts.* Roots used as medicine.

Zygadenus nuttallii Gray. Poison Sego. *ta-hā'-si-gwiv*: *ta'-bi*, sun, + *si-go*, + *iv*, 'sun sego.' The bulbs of this plant are poison, hence the common name as given above. The sego proper is *Calochortus nuttallii*.

ALPHABETICAL LIST OF PLANTS ACCORDING TO UTE NAMES

āh-gai-ya-ga-ti-nūmp. *Tellima parviflora* Hook.

āh-ga-ko-rimp. *Caulanthus hastatus* Watson. Rose.

āh-ga-si-ūh-giv. *Rosa fendleri* Crepin. Buffalo-berry.

āh-go-i-ēnts. *Valerianella congesta.*

āh-gūt-a-gwiv. *Shepherdia argentea* Nutt.

āh-ka-pi-sa-wats. *Troximon* sp.

a-va-tu-tūm-bāt-ūm-av. *Cornus stolonifera* Michx. Kinnikinnick;
Cornel. Cf. *ka'-siv*.

a-wat-o-gwiv. *Beckmannia erucæformis* Host. Slough Grass.

i-am-si-ta-gwiv. *Achillea millefolium* L. Yarrow.

ka-bam-si-ta-gwiv. *Viola beckwithii.* Wild Pansy.

ka'-ban-kim-bis. *Aspidium filix-mas* Schwartz, *Pteris aquilina* L. Wood fern; Bracken.

kaib-o-gwiv. *Eragrostis purshii* Schrad.

kai-rūm-si-ta-gwiv. *Fritillaria atropurpurea* Nutt. Tiger Lily; Brown lily.

kai-va-ma-mū-tea-kwiv. *Hedysarum mackenzii* Richard. Vetch.

kaib-o-gwiv. *Eragrostis purshii.* Kinnikinnick; Cornel.

ka'-siv. *Cornus stolonifera* Michx. Willow.

ka-na-tē-ānts. *Vicia americana* Muhl.

ka-nay. *Salix longifolia* Muhl.

ke-ats-ēm-si-ta-gwiv. *Senecio* sp.

k'sa-ka-nay; *ksa-nay.* *Salix amygdaloides* Anders; *Salix lasiandra* Benth. var.; *Salix cordata* Muhl.

ksip-o-a-ats. *Berberis repens* Lindl. Oregon Grape; Barberry.

- k' sũm sed-an-gẽ-ẽts.* *Eriogonum ovalifolium* Nutt. Silver Plant.
ku-ats-ũm-si-ta-gwẽv. *Grindelia squarrosa* Dunal. Gum Plant.
kũh-ka. *Allium bisceptrum* Watson; *Allium acuminatum* Hook. Onion.
ku-si-a kũmp. *Balsamorhiza sagittata* Nutt. Balsam root; Arrow root.
kus-pa-sẽn-di-ãt. *Draba nemorosa* L. Whitlow Grass.
kwi-ũv. *Quercus undulata* Torr. var. Rocky Mountain Oak; Scrub Oak.
ma-ab; ma-av. *Artemisia tridentata* Nutt. Sage-brush.
t (ma)-mũ-tẽm-bi-a. *Phacelia menziesii* Torr.
mĩ-pũ-ga-shĩ-ẽts. *Collinsia parviflora* Dougl.
(ma)-mo-a-na-nũmp. *Matricaria discoidea* DC. May Apple.
mo-mũ-kwi-ẽts. *Phlox longifolia* Nutt. Phlox; Sweet William.
mo-pi-ãnts. Various species of *Trifolium*. Clover.
mo-tam-bi-ãts. *Rhus aromatica* Ait. var. *trilobata* Gray. Sumach; squaw-berry.
mo-tẽn-de-ãts. *Capsella bursa-pastoris* Moench; *Capsella divaricata* Walp. Shepherd's purse.
mũ-ten-ãt. *Castilleja parviflora* Bong. Painted-cup.
(mo)-mũn'-ki-ad-kũp. *Taraxacum officinale* Weber. Dandelion.
mũ-tẽm-bi-a. *Phacelia menziesii* Torr.
ũ-ant-ũv. *Cymopteris longipes* Watson.
o-ãt-ĩm-bi-ẽts. *Hydrophyllum capitatum*. Water leaf.
o-do-rũm-bĩv. *Elymus canadensis* L. Lyme Grass.
o-nũn-ga-ats. *Streptanthus cordatus* Nutt.
o-wiv. Grass (in general).
pa'-bo-i-ãts. *Erodium cicutarium* L'her. Stork's Bill; Alfilaria.
t pa-gwar'-ũv. *Betula occidentalis* Hook. Birch.
pai'-a-pũ-t-ẽts. *Ranunculus aquatilis* L. var. Buttercup.
pa-ũ-ga-da-pĩn-ftã. *Eleocharis palustris* R. Br. Spike-rush.
pa'-sau-wa-dĩnt. *Triglochin maritimum* L. Arrow Grass.
pau-ũs-a-nau-ga-ant. *Ranunculus cymbalaria* Pursh. Buttercup.
pau-wũv. *Juncus balticus* Deth. Bog-rush.
pa-war'-ũv. *Acer glabrum* Torr. (see also *pa-gwar'-ũv*). Maple.
pi-gwũts. *Carex Jamesii* Torr. Sedge.
pĩn'-i-kwi-ẽts. *Fritillaria pudica* Spreng. Yellow Bell; Buttercup.
pĩn'-ka-pai-ãts. *Orogenia linearifolia* Watson.
po-ẽ-tẽm-ẽn. *Sisymbrium canescens* Nutt. Hedge Mustard.
po-gomp'-ĩv. *Ribes aureum* Pursh. Buffalo or Missouri Currant; Currant.
pu'-i-ãnts. *Veronica aggerata.* Speedwell.

- pu-i-pi-ûm-av.* *Vicia americana* Muhl. Vetch.
pu-ê-tcûm-av. *Cowania mexicana* Don. Cliff Rose.
qta'-ko-mav. *Arabis holboellii* Hornem. Rock Cress.
qté'-ââ-gûv. *Potentilla anserina* L. Five Finger.
sa'-go-a''-sînt. *Erysimum asperum* DC.
?sa-gûm-sî-ta-gwîv. *Erigeron canus* Gray. Fleabane.
sa-gwa-in-di-ûp. *?Trifolium pratense* L. *?Red Clover.*
sa-gwam-sî-ta-gwîv. *Abronia fragrans* Nutt. Sand Puff.
sa-gwa-rînt. *Delphinium menziesii* DC.; *Delphinium bicolor* Nutt.
 Larkspur.
sa-gwô'-sa-int. *Lathyrus ornatus* Nutt. Everlasting pea.
sa-gwa-sî-ûâ-gûts. *Commandra pallida* A. DC. Bastard Toad-flax.
sa-gwûn-na-ga-ats. *?Malvastrum munroanum* Gray. *?False Mallow.*
sa'-mûv. *?Grayia polygaloides* Hook and Arn. *?Shad Scale.*
sa-na'-ko-mav. *Asclepidiora decumbens* Gray. Milkweed.
sau-êd-in-do-êts. *Viola cucullata* Ait. Violet.
sau-ga-mi-ants. *Lepidium intermedium* Gray. Pepper-grass.
sau'-o-ma-ânts. *Viola canina* L. var. *sylvestris* Regel. Violet.
shan-ti-kût. *Citrulus vulgaris.* Watermelon.
sho-av. *Populus angustifolia* James. Cottonwood.
shpûmp. *Gutierrezia euthamiae* Torr. and Gray. Rabbit-brush; Torch-weed.
si-go *Calochortus nuttallii* Torr. and Gray. Sego.
ta-bâ'-sî-gwîv. *Zygadenus nuttallii* Gray. Poison Sego.
ta-ma-nûmp. *Shepherdia canadensis* Nutt.
ta-ma-nûmp-in-ûv; ta-ma-nûmp-in-ka-nav. *Salix flavescens* Nutt. Vid.
 sub. *Salix* in preceding list. Willow.
ta-ma-sî-ta-gwîv; ta-mes'-ta-gwîv. *Iva axillaris* Pursh.
te-êd-kav. *Lonicera utahensis.* Woodbine.
te-ê-kav. *Pachystima myrsinites* Raf. Box.
ti-bi-wu-tek. *Claytonia caroliniana* Michx. Spring-beauty.
tim'-pin-tsau-ûv. *Antennaria dimorpha* Torr. and Gray. Everlasting.
tim-pik-ûv. *Cystopteris fragilis* Bernh. Fern.
ti-va. Nuts of *Pinus monophylla* Torr. Pine-nuts.
tt'-wî-pi-tcûm-av. *Astragalus iodanthus* Watson. Buffalo-bean; Rattle-weed.
to-tsi-wûts. *Equisetum arvense* L., sterile stems. Horsetail.
to-tûv. *Ferula multifida* Gray.
to-ûmp. *Amelanchier alnifolia* Nutt. Service-berry.
tûâ. *Solanum tuberosum.* Potato.

- tsün'-a-na-di-lts.* *Glaux maritima* L. Sea milkwort.
t'su-saip. *Scirpus validus* Vahl. Bulrush.
tsât-kûp. *Lithospermum pilosum* Nutt. Gromwell.
tû-ka-rûmp. *Amsinckia tessellata.*
tu-ko-wûts. *Equisetum arvense* L., fertile stems. Horsetail.
wai. ? *Agropyrum repens* Beauv. Blue-joint grass.
wop. *Juniperus californica* var. *utahensis.* Cedar juniper.
wu'-to-ma-siv. *Lepidium sativum.* Pepper-grass.
ya-a'-ti-nûmp. *Equisetum laevigatum* Braun. Scouring Rush.
yo-gûm-si-ta-gwiv. *Gilia gracilis* Hook. *Gilia.*
yo-gwô'-ta-ma-nûmp. *Smilacina amplexicaulis.* Nutt. False Solomon's
Seal.
yu'-bi-shad-ûmp. *Krynitzkia sericea* Gray.

PROVO, UTAH.

ANALYSIS OF THE MISSION INDIAN CREATION STORY

BY THOMAS WATERMAN

THE creation stories of the various Mission Indian peoples of southern California have been the subject of a number of papers by different authors. The bulk of the material has been collected by Miss Constance Goddard DuBois, and has appeared from time to time in the *Journal of American Folk-lore*. A section of this author's paper in the University of California *Publications in American Archaeology and Ethnology*, "The Religion of the Luiseño Indians," is also devoted to this subject. Other articles bearing on this general theme are "Two Myths of the Mission Indians of California," by A. L. Kroeber, and an account of a Diegueño creation myth included in "The Religious Practices of the Diegueño Indians," an unpublished manuscript by the writer of the present paper. With every list of papers on this or any related subject must be mentioned the earliest written account of Mission Indian mythology, the treatise of the Franciscan missionary Boscana. This is printed in Robinson's *Life in California* (New York, Wiley and Putnam, 1846) under the sub-title of "Chinigchinich." Supplementary to the Diegueño version of the creation story must be considered Miss DuBois' two "Chaup" or Cuyahomarr stories, though they are not concerned primarily with creation. They too were printed in the *Journal of American Folk-lore*. For the sake of brevity all of these sources have been arranged and assigned designations in the accompanying table.

As is perhaps well enough known, the term "Mission Indians" applies to three peoples in southern California, the Luiseño (Shoshonean), the Cahuilla (also Shoshonean), and the Diegueño (Yuman). Historically, the term does not apply to the Mohave (the linguistic kindred of the Diegueño, living on the Colorado river) since these latter never came under the direct influence of the Missions. In mythology, however, and in religion, these Mohave show un-

doubted traces of relationship with the Mission peoples proper. This relationship is so evident, especially as regards the Luiseño, that a discussion of the Mission Indian stories would be incomplete without a reckoning with the Mohave account. While historically inaccurate, the inclusion of the Mohave among the Mission Indians is critically a necessity in a consideration of mythology. In the following paper therefore this Mohave myth is discussed as one of the Mission group.

AUTHOR	PUBLICATION	TITLE	PAGES	DESIGNATION
Boscana	In Robinson, <i>Life in California</i> , New York, 1846	(San Juan Capistrano) Serrano Version	241-248	A
Boscana	Idem.	(San Juan Capistrano) Playano Version	249-257	B
C. G. DuBois	<i>Journ. Am. Folklore</i> , XVII, 1904	Luiseño Creation Myth (La Jolla)	185-188	C
C. G. DuBois	Idem., XIX, 1906	Luiseño Creation Myth	52-60	D
C. G. DuBois	<i>Univ. Cal. Publ. in Am. Arch. Ethn.</i> , VIII, 1908	Luiseño Creation, Third Version	128-138	E
C. G. DuBois	Idem.	Luiseño Creation, Fourth Version	138-148	F
A. L. Kroeber	<i>Journ. Am. Folklore</i> , XIX, 1906	(Luiseño) Origin of the World	312-314	G
A. L. Kroeber	Idem.	Mohave Account of Origins	314-316	H
C. G. DuBois	Idem., XIV, 1901	(Diegueño) Story of the Creation	181-184	J
C. G. DuBois	Idem., XXI, 1908	Yuma Creation Myth	236	K
Thomas Waterman	Univ. of Cal. Ms.	(Diegueño) Creation Story		L
C. G. DuBois	<i>Journ. Am. Folklore</i> , XVII, 1904	The Story of the Chaup	217-242	M
C. G. DuBois	Idem., XIX, 1906	The Story of Cuyahomarr	147-164	N

NATURE OF OUR SOURCES

Of the papers enumerated in the above table those by Miss DuBois (C, D, E, F, J, K) concern principally, as shown by the list, the Luiseño account. To these as coming from the same "tribe" must be added another Luiseño account, transcribed by Dr A. L. Kroeber (G). With these Luiseño versions must be compared the so-called "Serrano" and "Playano," or "inland" and "coast," versions obtained by Father Boscana around Mission San Juan Capistrano (A, B). The people so named are subdivisions of the Luiseño linguistic group; and the myths therefore, as we would expect, are related more or less closely to the typical Luiseño versions. The same remark might almost apply to the "Cahuilla" mentioned in the opening paragraph, with the added note that their creation story, while never published, is almost certainly characterized by close adherence to the Luiseño form—so close, in fact, that the myths are practically the same. The Diegueño story is represented by three printed myths, two from Miss DuBois (J, K) and one (L) from the present writer.¹ The Mohave account is represented by only one printed version (H), but this is a summary or outline from a number of independent renderings. It therefore enables us to make a perfectly fair comparison of the foregoing with the Mohave account.

It must be mentioned in passing that the latest creation myth published by Miss DuBois (namely K) while called by that author a "Yuma" account, is presupposed in the following pages to be Diegueño. The reason for this is that the present writer considers her "Yuma" to be partially equivalent to his "Diegueño." "Yuma" is used by both the natives and whites of the region in question to denote vaguely either "the people to the southeast" or the supposititious predecessors in the land of the present race.² Thus the northern Diegueño in their English speech apply it to the southern Diegueños, who speak a slightly different dialect, and these in turn apply it to the Mohave. The term is therefore robbed of its exact

¹ Version J is from Mesa Grande, L from a Kamiyal at Campo, so that they represent the extreme north and south of Diegueño territory.

² The term as used by the Diegueño may be a corruption of the Luiseño word *yumaiik*, 'formerly.'

significance, for in a technical sense they all, Diegueños and Mohave alike, are "Yumas." Since the myth fits into the Diegueño scheme in its internal features, and since these features make it absolutely certain that it is not Mohave, we may perhaps without violence accept it as plainly Diegueño.

Comparison is always most easy and convincing when the entire mythologies concerned can be studied side by side. Such a method makes the relationship between the southern California creation stories most apparent. The study even of extended parallel passages reveals a most interesting condition of interrelation. Either method is however inapplicable within the limits of a purely critical paper. The writer has therefore, in default of a better method, chosen a number of "incidents" or "themes" to furnish a basis of study. All of these are prominent elements in the mythologies concerned, and the reader will see that they are in the main typical not only of the Mission Indian but of the usual California creation story.

1. Origin: *a* by growth or birth.
 b by creation.
2. Origin of the sun.
3. Genesis of mankind.
4. Origin of culture.
5. Advent of death.
6. Culture-hero.
7. Death of the culture-hero.
8. Apotheosis of the culture-hero.
9. Rascal disposition of Coyote.
10. Migration of mankind.
11. Transformation into animals out of a human type.
12. Reversal in primeval times of the well-known conditions.
13. Sexual relations between brother and sister.

DISCUSSION OF PARALLEL THEMES IN MISSION INDIAN CREATION MYTHS

1a. *Origin by Birth or Growth*

As we have seen, there have been published seven accounts of the Luiseno creation myth. Of these six give an account of origins which may be outlined briefly as follows:

"In the beginning Sky (written variously as Tukmit, Tukmish, Tukomit, Tucomish, and Dupash) was a man, Earth (Tamaiovit, Tanowish, or Tamaiwot) was a woman. From their union were born all things, — people, the animals, the sun, trees, rocks, and rivers, — but not as we know them now. All things were then people" (A, C, D, E, F, G). Several accounts, notably E, F, and D, give a detailed account of certain "chaotic" existences which preceded the organization of Earth and Sky as man and woman. Things as they now are, however, came by birth from Earth as a mother. This, then, according to the Luiseño, is the origin of existence.

With this we must compare the Mohave account: "The first were the sky, a man, and the earth, a woman. These met far in the west and from their union were born . . . all the people, the animals, and plants." There follows on this introduction a slightly different train of incidents, but it is evident that the fundamental idea is the same.

1b. *Origin by Creation*

The Diegueño account however says that in the beginning everything was water (J 236, K 181, L). Things, in place of being born, were first created by two creators, Tuchaipa and his brother Yokomatis. All the Diegueño sources agree as definitely on this as do the Luiseño and Mohave sources on the other view of Origin. We find therefore a contrast at the outset between the Diegueño account on the one hand and the Luiseño-Mohave narratives on the other. This line of demarcation will be found evident in some degree throughout the following pages.

Before the position of our various sources on the matter of "primeval origin" can be considered as even tentatively sketched, mention must be made of several points in Miss DuBois' two accounts (J and K) which seem to contradict what has just been said, and to ascribe to the Diegueño a belief similar to that held by the Luiseño. For instance: "When Tuchaipa made the world, *the Earth is the woman, the Sky is the man* (J 181). "When (*Tuchaipa and Yokomatis*) came forth from the Earth mother they had to pass throughout the ocean which then covered the land" (K 236). These two sentences seem to flatly contradict what has just been

said, that there is a *contrast* between the Luiseño and Diegueño beliefs. A little further perusal, however, of the two passages quoted, shows that this supposition is groundless, and the contradiction more apparent than real. The first sentence begins: "When Tuchaipa made the world." Here we have described origin by creation, in place of the Luiseño origin by birth. Moreover in the following lines there is no actual mention of *birth from earth-mother*, which is the crux of the Luiseño type of myth. The second sentence furthermore, if it indicate that the Luiseño belief is the same as the Diegueño, is in hopeless contradiction with our other Luiseño sources (see D 53, and G 314). These reveal a belief that the ocean is earth-mother's urine. It is probable, indeed, that these two sentences came into the myths in question either from a bias on the part of the author, or from a combination of Luiseño and Diegueño story-elements by the native narrator. It is certain in the second place that whether or not these passages in question have a right to a place in the Diegueño myth, Tuchaipa is pictured unmistakably as a creator. For instance: "Now I am going to make hills and valleys and little hollows of water." "Then he made the forests . . . then he took clay and made . . . the men. . . . You make the moon as I have made the sun" (J 182). "So Tuchaipa made the world by himself. He made all the people . . . then he made the moon and the sun" (K 236). So whether or not the two sentences which seem to indicate a structural resemblance between the two myths are authentic Diegueño elements or Luiseño glosses, further evidence of unmistakable import indicates that there is no such relationship. While the Luiseño and Mohave accounts are similar, the Luiseño and Diegueño are inherently and vitally dissimilar.

2. *Origin of the Sun*

After the creation of the world, perhaps the most important element is the genesis of the sun. According to the Luiseños, the sun (C,D,E) came by birth from earth-mother. He so amazed the other "children" by his intolerable heat and brightness that earth-mother caught him up and hid him away again for a season—a thing which she has continued to do periodically ever since, to the

great relief of the rest of creation. The Diegueño account (L, and compare J 181 and K 236) says that the creator took clay "and made a round flat object and tossed it up against the sky. It stuck there and made everything light. It is the sun." So in this important detail of the creation narrative we find the Luiseño and Diegueño accounts again in noticeable contrast. The Mohave account (H 313) is somewhat like the Diegueño, in that the sun is created for a definite purpose. Students of the solar "theme" will also observe that the solar "criteria" — intolerable heat, brightness, etc., — so picturesquely present in the Luiseño account (see D and E), are absent from the Diegueño.

3. *Genesis of Mankind*

A reversed situation is found in the relation of the beliefs concerning the creation of man, for in this the Mohave account agrees with that of the Luiseño. People in the Luiseño conception are merely, along with sun, trees, rocks, and animals, children of earth-mother. The Diegueño story (J 182, K 236, L), like the Mohave account, describes the first man as a being made from clay. "Then he took a piece of yellow clay and split it part-way up. That is the way he made man." "He dug in the ground, and took mud, and made of it the men." Father Boscana's Playano version gives a similar account (B 250): "Nocumo . . . created man out of the earth." This account is however but one out of seven, and so does not alter our conclusion concerning the usual or typical Luiseño view. Once more therefore we find the Luiseño and Mohave myths in agreement.

4. *Origin of Culture*

As far as our Luiseño sources deal at all with the origin of culture, they picture all the arts and crafts as being either taught by the culture-hero, Wiyot, or springing spontaneously into the minds of the people at the time of his death and in connection with his funeral rites (D 55): Wiyot "taught the people"; 56: "he died, and death came into the world"; 58: After the death of Wiyot "they knew how to make the fiestas and sing and dance." E 135: "Before Wiyot died he told them to get together and make races"; 60: "he told the people that they must take the small bones of the

(deer's) leg for awls with which to make baskets. This was the beginning of basket making." C 185: Then Wiyot "taught them how to make baskets, ollas, redas, and all their arts." The culture myth is not, however, in any degree particularized. The two early accounts (Boscana's) picture Wiyot as an actual earthly tyrant or despot. It is rather evident however that this peculiar view comes from Boscana's own misconception as a churchman and a subjective view of the Indian hero's real function in mythology. The Mohave account seems to resemble the Luiseño version closely in outline, with differences only in the proper names concerned. Their myth seems however to be more systematic and detailed.

According to the Diegueño view, though their account is itself inconsistent, culture came originally from two sources. A great snake, Maihalowit (see L), living in a house out on the ocean, had all the arts and crafts inside of himself. He was invited by the people to the shore and into a house. There on account of their sudden terror at his immense size he was cremated by them. When the fire touched him he burst or exploded and all the culture came flying out. Certain of the Diegueño religious ceremonies however are described in the "Chaup" story as originating in another manner (see M, N). In regard to this fourth "theme," therefore, the Luiseño and Mohave accounts are similar, except in the matter of names, while the Diegueño account is different from both.

5. *Advent of Death*

Few if any of the sources give detailed descriptions of the manner in which death came into the world. Enough of them mention it, however, to show that it is an inherent part or element in southern California creation mythology. In the Luiseño version universal death follows as the result of the death of Wiyot. (D 58: "For when they found that death had come into the world they did not know what to do." D 59: Wiyot "called the people about him and told them that he was the one who had made death." E 137: "There was no death before this time." F 146: "He thought he would go north to get away from death, as he found there was going to be death after Wiyot died.") The Mohave myth seems to be silent on the point. One Diegueño version (J 183) gives an elabo-

rate treatment of the theme: Fly, at a time when all were debating on the choice they had of dying for good, dying for a time and returning, or living forever without dying at all, rashly counseled the former. So now everything must die forever.¹ This feature seems to set the Diegueño story off from the Luiseño and Mohave myths.

6. Culture-hero

As suggested already, the culture-hero of the Luiseño, so far as they have any, is Wiyot. One account (H 145) says that Tukmit, the sky, divided the people into "tribes," or races, and gave them their religion. This is more than likely an individual variation. The lack in this connection of concrete detail concerning the actions of the culture-hero is matched by a tendency in Boscana to ascribe some of the culture-hero episodes to Chungichnishi, or "Chinigichinich," almost a deity among the Luiseños, who seems however in the modern accounts to be felt only vaguely as a person. In all the versions except the one mentioned in which Tukmit usurps his place, Wiyot is a semi-divine teacher. The Mohave parallel to Wiyot is the two characters Matevilye and Mastamho. These are Earth-born semi-divine heroes who divide between them the incidents characteristic of the Luiseño Wiyot. The younger, like Wiyot, leads the people in certain primeval migrations, separates them into nations, and in several respects fills the place of a culture-hero (H 316, cf. G 313). Matevilye, the elder, came to his death, once more like Wiyot, through the machinations of the Frog, whom he had offended. At his cremation, as in the story of Wiyot, Coyote leaps up and eats his heart. These and other resemblances make it obvious that the Luiseño and Mohave narratives have more than a merely external similarity.

Among the Diegueño the origin of culture is associated, as we have seen, with the arrival of a great snake, Diegueño Maihaiowit, Mohave Humasereha, from the ocean. There is no further similarity in the stories. The Diegueño moreover have no character that will at all compare with the Mohave Matevilye and Mastamho, nor the Luiseño Wiyot. In their Chaup story, which to a certain extent deals with origins, they have like the Mohave two "gods"

¹ This is of course a favorite theme in all myths concerning the origin of death. Cf. Dr A. L. Kroeber in *Journ. Amer. Folk-lore*, 1908, XXI, 227.

or heroes, but the incidents associated with them find no parallel in the Luiseno or Mohave stories. Once more therefore we find the Mohave and Luiseno accounts manifesting a relationship or at least a similarity, which is in no apparent degree shared by that of the Diegueño.

7. *Death of the Culture-hero*

As pointed out by Dr Kroeber (*Journ. Am. Folk-lore*, 1908, xxi, 225), the death of the culture-hero is a fundamental and typical motive in southern California mythology. The episode is described in almost similar words in six (A, C, D, E, F, G) out of the seven Luiseno, in the Mohave (H), and in one of the three Diegueño accounts (J). It has already been outlined.

In several elements, however, the typical Diegueño version, in spite of external resemblances, is intrinsically different from the Luiseno and Mohave accounts. In the first place, the incident in the Diegueño account mentioned (J), is described as having occurred to *Tuchaipa the creator*. He does not in name or attributes correspond to Wiyot. In the second place, the Diegueño account lacks the point of the whole story, in that the hero of the incident does not return after death as the moon, Moila. In fact the moon is distinctly mentioned as being present before the death of Tuchaipa. The incident of the poisoning is also differently described. In the Luiseno version Wiyot notices Frog, a woman, in bathing, and remarks that her back is flat and shapeless like a frog's. In anger Frog determines to poison him. In the Diegueño version the laughter of the people who were looking on at a race between Frog and Rabbit caused the former's anger. Since the entire frog episode is missing in the other two versions of the Diegueño myth, and since the version which possesses it shows these dissimilarities to the typical Luiseno account, and, most important of all, since the narrative in question was obtained at Mesa Grande, within a stone's throw almost of Luiseno influence, we may perhaps regard it as neither intrinsically Luiseno nor Diegueño, but a rather illogical combination of elements from both myths. The real Diegueño view is in that case represented by the two Chaup myths of Miss DuBois, in which the hero is metamorphosed into Ball-lightning. This is the view held by the present writer, that the Luiseno and

Mohave accounts are similar to each other, while the Diegueño in this regard is quite distinct from them.

8. *Apotheosis of the Culture-hero*

In the matter of a change or alteration in the outward or bodily form of the culture-hero, when his career on earth is finished, all three myths show a striking parallelism. It is perhaps characteristic of the usual culture-hero myth that the hero undergoes some metamorphosis or apotheosis. The Luiseno adaption of the theme has led to one of the curious indentifications of which all religious literatures are full. The similarity of Wiyot's return after death as the moon, to the Christian doctrine of the resurrection, leads the Luiseno to identify Wiyot with Christ. The other two mythologies under discussion are like the Luiseno in this, that the culture-hero in each one is transformed into some local natural phenomenon. The Diegueño culture-hero becomes Chaup, the electric fire-ball,¹ while the Mohave Mastamho (H 316) undergoes a picturesque transformation into the Fish Eagle.²

9. *Rascal Disposition of Coyote*

Enough has already been said in connection with the death of the culture-hero to indicate the "marplot" part which Coyote plays in that episode. This is interesting particularly because Coyote occurs widely in California mythology as a "marplot." This theme is unmistakably typical of both the Luiseno (see A 245, D 55, E 132, F 145, and G 314) and Mohave (H) accounts, and if our hypothesis concerning source J is true, is absent from the Diegueño account. Although negative evidence is not conclusive, especially in the present case, the fact that mention of Coyote is made only once in Diegueño mythology as so far known, in a passage of composite origin, must be considered rather significant.

¹ The Diegueño story of Chaup, or Cuyahomarr, is not to be confused with the absurdly-named "cannibal meteor" story locally current among the northern Luisenos (see A. L. Kroeber, *Journ. Amer. Folk-lore*, 1906, XIX, 316, and compare with this a fanciful rendition by G. Wharton James, *ibid.*, 1903, XVI, 153). The myths refer to the same phenomenon, but are not identical.

² The eagle is a ceremonial bird among the Luisenos, Diegueños, and Mohave. See L, also G 313.

10. *Migration of Mankind*

In the Diegueño myth concerning origins mankind is created at a mountain called Wikani (L), apparently the same, both etymologically and geographically, as the Mohave Avikwame. From that mountain the tribes according to both myths separated after building a "house" and spread over the world. The Mohave myth pictures a migration prior to the separation at Avikwame, which bears a strong resemblance to the Luiseño migrations under Wiyot (C 53, E 132, G 313). The Diegueño have also certain brief migration traditions, but they are localized in various families¹ and do not at all correspond to this Mohave-Luiseño story of a general migratory stage in the history of human kind. We have a rather unique condition then, in that there is a structural relationship in the names concerned between the Mohave and the Diegueño accounts, but a relation of the story elements between the Mohave and the Luiseño.

11. *Transformation into Animals out of the Human Type*

In all the Luiseño accounts quoted we find the familiar belief that animals were at one time people like ourselves. For instance: "So the four of them . . . people, but later the frog, the earthworm, the gopher, and a water animal resembling the gopher, combined to destroy him" (D 55). "So the rattlesnake, then a man, searched" (loc. cit.). "So they (the people) turned into different kinds of animals and different kinds of grain and all the things we have now in the world." The Diegueño account is still more picturesque in describing a similarly general transformation (see *Jour. Amer. Folklore*, 1906, XIX, 161). The Mohave account, however, so far as our outline indicates, wholly lacks this theme. In this instance therefore the Luiseño and Diegueño accounts are similar.

12. *Reversal in Primeval Times of Well-known Conditions*

While not so prominent in the Mission group as in some other mythologies, this theme is nevertheless fairly well defined. Outside of the fact just mentioned (the transformation into animals), we find that the earth used to be the universal food (A 245, B 252, D 53, etc.); dry land used to be small, and had to be stretched to

¹ As the La Chapa family at Manzanita.

accommodate the people (A 244, D 54); people all had the same language (G 313). The Diegueños say that the rocks in primeval times were soft, so that wherever the people stepped, they left hollows in the boulders. So also the animals and plants used to be without markings, but were marked by "Chaup" (*Journ. Amer. Folk-lore*, 1906, xix, 161). The theme does not appear to be emphasized in the Mohave accounts.

13. *Sexual Relations between Brother and Sister*

This has been named as a rather distinctive theme in some mythologies, and it may be well therefore to mention that it is present in the Luiseno and Mohave accounts in the relation between Sky and his sister Earth. To all appearance the theme is foreign to the Diegueño account. In this final regard therefore the Luiseno and Mohave accounts are similar.

Viewed in tabular form, the results of the foregoing study are as follows:

THEME	A—SOURCES IN AGREEMENT	B—SOURCES IN CONTRAST TO "A"	C—SOURCES WHICH ARE SILENT
1. Origin of the <i>Mundus</i>	<i>Luiseno</i> A B C D E F G <i>Mohave</i> H	<i>Luiseno</i> B <i>Diegueño</i> J K L	
2. Origin of the Sun	<i>Diegueño</i> J K L <i>Mohave</i> H <i>Luiseno</i> F	<i>Luiseno</i> C D E	<i>Luiseno</i> A B C
3. Genesis of Mankind	<i>Luiseno</i> A B C D E F G <i>Mohave</i> H	<i>Luiseno</i> B <i>Diegueño</i> J K L	
4. Origin of Culture	<i>Luiseno</i> (A B) C D E <i>Mohave</i> H	<i>Diegueño</i> J K L	<i>Luiseno</i> F
5. Origin of Death	<i>Luiseno</i> C D E F	<i>Diegueño</i> J	<i>Luiseno</i> A B G <i>Diegueño</i> K L <i>Mohave</i> H
6. Culture-hero	<i>Luiseno</i> (A B) ¹ C D E G <i>Mohave</i> H	<i>Luiseno</i> F <i>Diegueño</i> J L M N	<i>Diegueño</i> K <i>Luiseno</i> (A B)
7. Death of the Culture-hero	<i>Luiseno</i> A B C D E F G <i>Diegueño</i> J <i>Mohave</i> H		<i>Luiseno</i> B <i>Diegueño</i> K L
8. Apotheosis of the Culture hero	<i>Luiseno</i> C D E F G <i>Diegueño</i> M N <i>Mohave</i> H	<i>Luiseno</i> A B	

¹ See under "Origin of Culture."

THEME	A—SOURCES IN AGREEMENT	B—SOURCES IN CONTRAST TO "A"	C—SOURCES WHICH ARE SILENT
9. Rascal Nature of Coyote	<i>Luiseno</i> A B C D E F G <i>Diegueño</i> J <i>Mohave</i> H		<i>Luiseno</i> B <i>Diegueño</i> K L
10. Migration of Mankind	<i>Luiseno</i> E F G <i>Mohave</i> H		<i>Luiseno</i> A B <i>Diegueño</i> J K L
11. Transformation into Animals from a Human Type	<i>Luiseno</i> C D E F G <i>Diegueño</i> J L		<i>Luiseno</i> A B <i>Diegueño</i> K <i>Mohave</i> H
12. Reversal in Primeval Times of well-known conditions	<i>Luiseno</i> A B D G <i>Diegueño</i> J L <i>Mohave</i> H		<i>Luiseno</i> C <i>Diegueño</i> K
13. Sexual Relations between Brother and Sister	<i>Luiseno</i> A B C D E F G <i>Mohave</i> H		<i>Luiseno</i> B <i>Diegueño</i> J K L

Briefly, our conclusions from the foregoing table are these:

In the first place, source B, Boscana's second version, differs in respect to ten or eleven out of our thirteen themes from the average *Luiseno* account. We may consider it roughly ten-thirteenths non-*Luiseno*. Considered from a purely impressionistic point of view, the account seems to bear more resemblance to the mythologies of the peoples to the north and east than to our other Mission Indian stories. The crowding of the fishes in a narrow ocean, and the fixation of the world by a central rock, "Tosaut," are cases in point. If this supposition is true, the "Chungichnish" portion of the narrative is to be considered a *Luiseno* addition or a gloss by Boscana himself. In that case the myth itself springs from some source other than the Mission cultures. While nothing definite can be decided, a comparison of all our other Mission stories makes it seem likely that this myth is itself scarcely Mission.

In the second place, a glance at the table shows that the relation between the *Mohave* and *Luiseno* accounts is, rather surprisingly, closer than that between the *Mohave* and *Diegueño*, though these latter are kindred peoples. That is to say, in nine out of thirteen cases the *Luiseno* sources agree with the *Mohave*; while

in only two out of the entire number do the Mohave and Diegueño agree. The resemblance between the Luiseño and Diegueño is really inconsiderable (three out of thirteen elements), since any two mythologies, although totally unrelated, might agree on two or three episodes, especially episodes of the nature of those discussed. It is apparent, therefore, if the conclusions on which we have proceeded are reliable, that there is no inherent relationship between the accounts which the Luiseños and Diegueños give of creation, and a relationship only in the terminology or etymology concerned between the Diegueños and Mohaves. The Luiseño and Mohave accounts on the other hand are clearly related.

CONCLUSION

The bearing of these themes, and our conclusions concerning them on the outstanding literature of the Mission Indian area, are of course quite evident. Accepting our premises as outlined, it becomes apparent that the "versions" and myths so far printed fall into five classes:

- I. The Luiseño creation myths. 6 versions, A, C, D, E, F, G
- II. The related Mohave creation myth. H (a summary)
- III. An independent Diegueño creation myth. (K, L)
- IV. The so-called Playano myth (non-Luiseño). B
- V. Composite myth (combining I and III).¹ L

The only differences in the above somewhat numerous Luiseño versions are those which arise from the personal factor in the native informant. The Mohave version is almost equally well defined. The precise content of the Diegueño story can be finally decided when other versions have been obtained. Enough is clear, however, to show that in all probability it is thoroughly independent of the other two narratives.

UNIVERSITY OF CALIFORNIA,
BERKELEY.

¹ There is some evidence to indicate that this myth is localized in the border region about Mesa Grande.

EXCAVATION OF EARTH-LODGE RUINS IN EASTERN NEBRASKA

By ROBERT F. GILDER

WITH A REPORT ON THE SKELETAL REMAINS BY ALEŠ HRDLÍČKA

THE RUINS IN GENERAL

ANNOUNCEMENT was made by the writer in this journal for January-March, 1908, of the supposed rediscovery of an Oto village north of the mouth of Platte river, in the valley of the Missouri, mentioned by Lewis and Clark, Major S. H. Long, and other early explorers of the Missouri river. After ten months' exploration of house ruins and tumuli in the area of the village, the writer has found an apparent affiliation between the method of house construction and the artifacts of this village, and many other circular house ruins, locally known as "buffalo wallows," scattered with little order along the left bank of the Missouri from the mouth of the Platte to the northern line of Washington county, Nebraska, a distance of approximately fifty miles.

Careful exploration in and a long study of the ruin of one house within the area of the supposed Oto village has determined positively that it differed materially from others near it. Its probable original construction was the writer's chief study, and the large and varied collection of artifacts secured was of secondary importance. The details of probable original construction, carefully noted throughout the entire work, were observed particularly at the suggestion of Dr Clark Wissler, of the American Museum of Natural History.

My associates during the labor of exploration, always voluntary, were Samuel P. Hughes, John B. Gallatin, J. E. Wallace, H. Jewell, Rev. R. W. Livers, and Everard Childs, the last a son of the owner of the property, Mr Lowrey Childs, into whose possession the objects found in the ruins have been given and where they will be available for study.



PL. I.

The ruin first explored is situated at the summit of a high and narrow ridge extending eastward almost at a right angle with the river bluffs nearly a mile from their north-south line, at a point

where the Nebraska and Iowa hills are separated by a distance of four miles. On the surface the ruin was similar to that of Work No. 1, Ponca Creek district, previously described by the writer,¹ with the exception that it was sixty feet in diameter, measured from the outside of the rim, and deeper by nearly four feet in the center of the depression.

The work of excavation was begun on the western side of the ruin, five feet from its rim. A ditch six feet wide, and deeper by one foot or more than the house floor, was carried southeastward and around the outer base-line of the floor for four-fifths of its circumference. This would have been a complete circle six feet wide but for a linden tree, sixteen inches in diameter, which grows five feet inside the rim in the northwestern portion, compelling a narrowing of the ditch that the tree might be preserved. A detailed description of the work of exploration would be but a repetition of that of Work No. 1, Ponca Creek district, and is therefore omitted. For the purposes of this paper it may be here stated that the earth inside a circle fifty feet in diameter to a depth of five to ten feet was thoroughly examined.

In all house ruins similar to the one here described, the main fireplace, four to five feet in diameter, is situated near the exact center. From this fireplace the floor extends, nearly flat, to within ten feet of the extreme outer edge or periphery of the ruin. Here a platform, or step, twelve to fourteen inches high and almost vertical, rose from the floor and sloped rather sharply to the outer rim (fig. 2, *a*). On the southeastern side of the ruin a ditch was dug through this platform to the extreme outer edge, the sides of which gave the exact angle of the slope.

Around the line of the inner circumference of the platform, at distances of approximately five feet, the remains of posts six or seven inches in diameter were discovered. These were either in the form of charcoal or of wood dust. Sometimes bowlders lay about the remains of the posts, as if designed to aid in holding them in position. The grain of the charcoal posts indicated the wood to have been oak. About the posts, under the floor, and also under the platform, objects were more numerous than at other points in

¹ *American Anthropologist*, October-December, 1907.

the ruin. The charred remains of four posts about eight feet apart surrounded the central fireplace.

There were two features of house construction that stand out conspicuously: (1) the floor was approximately six to eight feet lower than the level of the surrounding ridge; (2) the angle at which the slabs, logs, or palings probably leaned inward from the periphery seems to indicate the highest part of the roof at about the same distance above the surrounding level as the floor was below, making the highest part of the roof about fifteen feet above the fireplace in the center of the dwelling.

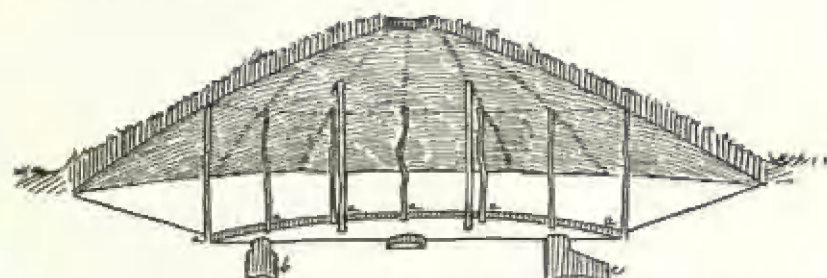


FIG. 2.—Section showing floor, platform, fireplace, position of posts, and probable arrangement of roof. (*a*, elevated "step"; *b*, *c*, caches.)

A prism cut from a section of the ruin half-way between the inner edge of the platform and the fireplace, shows twenty inches of vegetal mold, thirty inches of roof-covering, and about twelve inches of earth constituting the floor. The floor was a distinctive feature. It appeared to be composed of packed or rammed clay through which were mixed ashes and flakes of charcoal in great profusion. This clayey appearance differs from the loess with which the roof was covered, being darker and very compact.

Little besides broken flint implements, flint chips, shells, potsherds, and fractured drift boulders were found upon the floor itself; the major number of objects was beneath the floor surface, very often covered with boulders, as if the latter had been placed to mark the spot. Small fireplaces were of frequent occurrence on all parts of the floor.

Three caches were found in the first ruin, which for convenience will be designated as Work A. In one, fifteen feet west of the

center of the dwelling (fig. 3, *a*), were found flint blades, a score of *Unio* shells, a mano or muller made from a rounded drift boulder, its lower or grinding edges beveled, probably from contact with the sides of the mortar, and a pottery pipe in form of a soaring bird. The mortar itself was not found, although careful search was made for it throughout the ruin. Five broken metates, however, were found. The bottom of this cache was six feet from the surface.

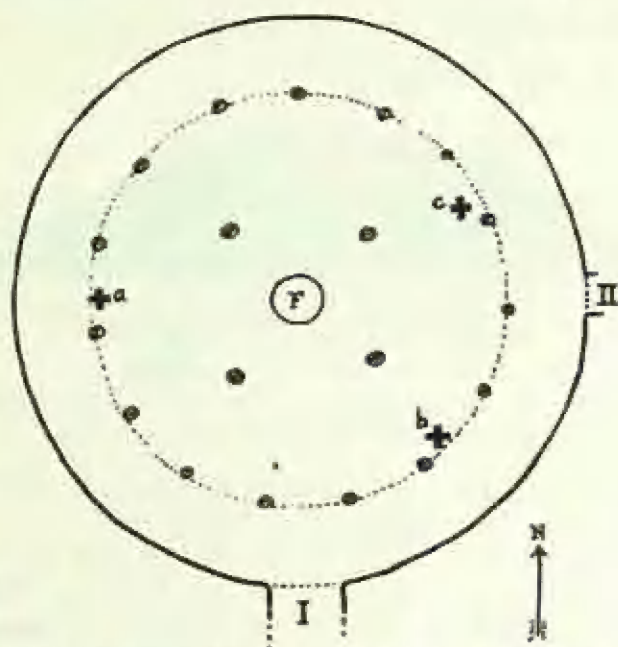


FIG. 3.—Ground plan of earth lodge, Work A. (*a*, *b*, *c*, position of the three caches. *I*, *II*, the entrances. The small hatched circles are posts. The inner circle is the step or inner edge of the platform. *F*, fireplace. The outer circle is the periphery of the ruin.)

The second cache lay at the southeastern side of the ruin (fig. 3, *b*). Its bottom was eight feet from the surface of the ground. It contained thirty shells, several large flint blades, other large flint implements of unknown use, one of which closely resembles a spokeshave, animal bones, projectile points, and a small piece of galena.

The third cache, in the northeastern part of the ruin, was the

largest and deepest of the three, its bottom being nine feet and a half from the surface (fig. 3, *c*). On a small shelf, or niche, at its eastern side, two feet from the bottom, lay a small image of a human face carved from pink soapstone, a number of animal bones and skulls, fish bones and scales, and *Unio* shells.

So many and varied were the objects found in the ruin, so abundant the charred sticks and grasses, that the impression is conveyed that the dwelling had been abandoned in haste and that it had burned to the ground, as stone required in implement making, with the exception of quartzite and granite drift boulders, is not found in this vicinity.

All of the ruins of the type here described are accompanied by refuse heaps covered with nearly two feet of vegetal mold and sandy earth containing potsherds, broken flint implements, flint chips, and, some of them, broken shells. No animal bones have yet been found. These refuse heaps usually occur twenty-five to fifty feet to the right of the southern entrance of the dwelling.

The situation of the house ruins on Childs Point — as the land on which the village is locally known — seems a feature of their variation. From the city of Omaha, four miles north, Childs Point extends in what seems in the distance to be an unbroken line eastward out into the river-bottoms at an elevation of about two hundred feet; but instead of being an unbroken point of land, it is in reality composed of a succession of heavily-wooded parallel ridges extending north and south with deep cañons between them. Occasionally a ridge extends east and west, and it is on one of the latter, which covers an area of about four acres, that Work A is situated (fig. 1). At its western end it is joined by another ridge extending southward. Eight ruins are situated on these two ridges, five on the former and three on the latter. One of the former ruins on the western end of the ridge, sixty feet in diameter, is joined at the southwest by a smaller ruin twenty feet in diameter. Excavation in the center of the smaller ruin determined that it was not a cache similar to the caches made by the Omaha. An ash-bed nearly two feet in thickness indicated long occupancy. (See fig. 4.)

A dozen feet south of these two ruins are five long and narrow mounds, extending east and west, two to three feet higher than the

surrounding level. They are seventy-five feet long by twenty-five wide, placed end to end, with depressions several feet wide between each. The writer was compelled to pass these mounds twice each week for three months in order to reach Work A, and became convinced that their similarity and extent was due to their having been erected as a continuous wall or breastwork. When opportunity presented, a trench was dug across one of the mounds, and another, east and west, crossed the first at right angles. At the juncture of the two trenches, two feet from the surface, a bone fish-hook of singular pattern was found (pl. 1, 2, *c*). This implement has a flattened elbow and is supplied with notches on the elbow's outer curve.

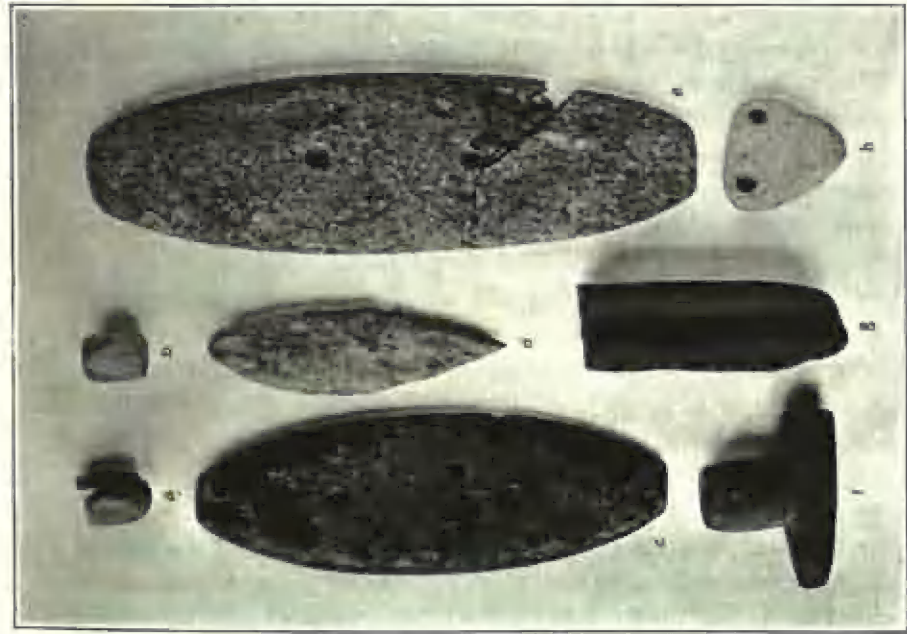


FIG. 4. — Earth lodge ruins. The figure stands in the center of the large ruin. Small ruin at the extreme right.

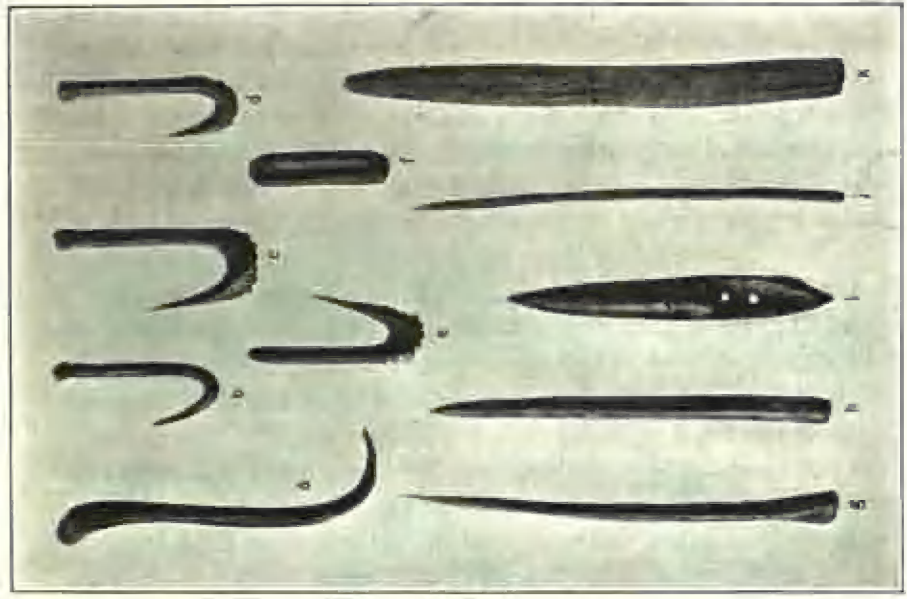
An inch or two below the fish-hook was a bone bodkin, and two feet still lower down, lying on what appeared to be the top of the hill, was a human skull and, to the eastward thereof, some of the long-bones of the skeleton. The frontal bone is wanting, but the mandible, maxilla, frontal processes of maxilla, and zygomatic arch were with the other parts of the skull. Such of these bones as were recovered were sent to the United States National Museum for examination by Dr Hrdlička.¹

Five feet east of the north-south trench, and on the same level

¹ See specimen 251,893 in the accompanying report by Dr Hrdlička, page 80.



2. a, Sculptured head of pink soapstone; b, Quartz bead; c, c, Gorges; d, Four-bladed flint knife; e, Soapstone pipe; f, Arrowshaft smoother; A, Stone pendant.



3. a-c, Bone fish-hooks; f, Bone needles; g, h, Antler object, possibly for weaving nets; d, Antler object of unknown use.

STONE AND BONE OBJECTS FROM NEBRASKA

as the bones, was an ash-bed four feet in irregular diameter and three inches in thickness. The mound was composed of alternate layers, six to eight inches thick, of light sandy loess and darker soil. It contained broken drift spalls, calcined granitic rock, pumice, potsherds, and shells. The ware is similar to that from Work A, and several decorated pot-rims bear precisely the same designs as those from the latter ruin.

The extent of the nearest ruins leads to the belief that most of the earth forming the mounds was taken from them at the time of the building of the lodges and was deposited as a fortification or wall of some kind which was used afterward as a sepulcher. Three hundred yards south of these earthworks, on the ridge extending in that direction, the writer opened a low tumulus in which were the calcined bones of three human skeletons, all of which were much deteriorated. The bones lay, without apparent order, beneath large slabs of limestone, covered with three feet of earth. Such of the bone fragments as could be removed were sent to Dr Hrdlička for examination.

One mile south of Work A someone had dug three short trenches in the ruin of an earth lodge similar to that of Work A. Examination gave assurance that no cache had been found. The writer extended one of the trenches on the western side of the ruin to within eight feet of its rim, and at a depth of six feet from the surface found a cache from which four-hundred objects of antler, bone, pottery, shell, and stone were obtained, including a head made of burnt clay, and a bead formed from a quartz pebble ground down to shape and drilled through from both ends. The bead is an inch in length and half an inch in diameter (pl. 1, 1, *b*). Other objects of interest are large and small "hoes" formed from the scapulæ of bison, elk, and smaller animals; punches, needles, fish-hooks (plain and notched at elbow), all of bone; pot-lugs; paint-pots and rims; a ground diorite celt; whole and broken pottery pipes; a fish carved from a shell and probably used as a pendant; bone beads (pl. III, 1, *f*), antler objects of unknown use; arrowshaft smoothers; drills; projectile points and flint knives; blades and scrapers; small piles of unworked flint; bone hide-grainers, finished and unfinished — the entire lot comparing favorably

with the objects from Work A. A second cache, five feet northeast of the first, was empty with the exception of animal bones and a quantity of fish spines and scales. The bottom of each cache was eight feet from the surface and four feet below the floor of the house. At the time frost stopped further work six caches had been found in this ruin.

A mile still farther south, and beyond a deep valley which cuts the north-south ridges, a large number of earth-lodge ruins are found, associated with scores of mounds more pronounced than any others of the neighborhood. None of these has been explored. Excavation in two shallow house ruins proved them to be of other origin than those described. No stone implements, sherds, or caches were found. Nearly the entire surface of a bench covering possibly five acres¹ is pitted with excavations from two to six feet deep. These holes were made by relic-hunters. Inquiry as to their origin elicited the information that they were made by a regiment of United States Infantry which, twenty years ago, was encamped near there during rifle practice. The soldiers had explored the old "burying ground" for "relics," consisting mostly of old Spanish coins dating back to the Fourteenth Century, with copper pots and other utensils. Although the writer has never seen any of these "relics," former members of the regiment camped near the burial ground, now living in Omaha, have informed him that the coins were so plentiful that the soldiers used them for poker-chips.

The writer is satisfied that the graves containing the copper "relics" were not those of the Omaha tribe, as is generally supposed, but probably of the Oto, and that the village, described by early explorers as having been long abandoned when they saw its ruins, occupied the bench which undoubtedly extended over many acres before cut away by the Missouri, which is doing the same thing every spring today, near where these graves were situated. This cemetery occupies the northern extension of a river bench a mile north of the railroad station at Bellevue. Between the two points I have found flint implements and have seen the remains of

¹ This bench must have been considerably larger prior to the encroachment of the Missouri river and the grade of the Burlington Railway skirting the foot of the present line of bluffs one hundred and fifty feet lower down than the two last ruins mentioned, and fifty feet above the river level.

lodge-fires where erosion has cut the surface. All evidence tends to place the arrival and occupancy of the Oto in the area described as much more recent than the people who occupied only the highest ridges of the same neighborhood and who buried their dead beside their homes.



FIG. 5. — Excavating in ruins at 17th and P streets, South Omaha, Nebraska.

North of Childs Point one fails to find house ruins until well within the limits of the city of South Omaha, in Douglas county. Whether long cultivation of the soil has obliterated the ruins cannot be determined. Tumuli, however, occur almost at intervals of a hundred yards the entire distance between Childs Point and the city of Omaha. Two miles north and west of Work A, at about what would be the junction of Seventeenth and P streets (fig. 5), South Omaha, surrounded on three sides by city residences, are four house ruins situated on the summit of a hill that has been used by boys of the vicinity as a baseball ground. Within the field is a large ruin which the players have partly filled with earth. The depression still retains water, and when first seen by the writer ducks

were swimming in it. A hundred yards to the east of this ruin are two others, one of which was explored by Mr J. E. Wallace, one of my associates. A cache was found ten feet west of the center, the bottom of which was seven feet from the surface of the ground. It contained very finely made and polished bone implements, and sherds of a very poor quality of pottery, some of which appear as if they had been exposed to the elements before being covered in the ruins. Other sherds were well burned. An object of much interest consists of the fragments of about three quarters of an unburned pot about the size of a teacup.

A few days after work was begun, the writer and his associates commenced extensive exploration of the ruin. Three feet north of the first cache was another, of the same depth as the first. It contained several beautifully made projectile-points and knives made from agate and jasper recognizable as material from the "Spanish diggings" of Wyoming; a bone fish-hook, four inches long, slightly curved, and tempered and polished; a small bone object, not thicker than the lead in an ordinary pencil, about an inch long, sharpened at one end and with two incised lines encircling the opposite end; many scrapers of ordinary form; a bone pendant, or bracelet, an inch by three inches in rectangular dimensions, partly curved, drilled through at each corner of one end, and shaved down to the twenty-second of an inch; lumps of potters' clay mixed with powdered granite, others mixed with lime and volcanic ash. On a narrow ledge a foot above the bottom of the cache was a crude pottery head, representing a person of low forehead and with prominent nose. Pieces of quartz and drift spalls lay near the bottom, in the earth filling the cache and on the house floor. A fine chipped flint celt, and ungrooved hammerstones of the commoner kind, pitted on one side, were also found. In all some two hundred objects were recovered, which, with the exception of some of the pottery, compare favorably with the objects from Work A at Childs Point. Several pieces of red hematite, yellow ocher, and pumice were also found in the ruin.

Near the junction of Poppleton avenue and Twenty-fourth street, Omaha, surrounded on all sides by city residences, are four circular house ruins. A brick-making plant, using loess in its man-



The crosses show the line of the lodge floor and the face of the loess section discolored by rain washing the charcoal on the floor.

EARTH-LODGE RUIN IN OMAHA, NEBRASKA

ufacture, has cut through the eastern third of the largest ruin, and its floor shows as a saucer-shaped line of charcoal and dark earth. The vertical step or platform noted in Work A, Childs Point, is wanting. Exploration has shown flint implements and chips, together with potsherds with a binder and appearance differing from any others of this section. The ruins are shallower than many others noted, and occur but half-way to the summit of a high hill (pl. 11).

Half a mile nearer the river bluffs than the four ruins mentioned, on a hill overlooking the river valley and surrounded by homes of Omaha residents, graders have exposed a section of an earth-lodge ruin. The floor is four and a half feet from the surface. The bases of the outer row of posts, burned to charcoal, are exposed and show the wood to have been oak. Implements and sherds identical with those from Childs Point and South Omaha have been found there by my associates.

The surface of an ancient earth-lodge ruin of the kind explored by the writer naturally drains moisture toward its center. Even after heavy rains of a week or more, away from the center the earth near the floor is dry and extremely compact. All the ruins explored are situated on high ridges, with deep valleys between, thus assuring good drainage and explaining why bones are found in good condition, although probably of considerable age.

Today there remain of the forest primeval which covered Childs Point many large oak and walnut trees, some of which are three to four feet in diameter. The other timber is mostly of second growth. One of the oaks, six feet nine inches in circumference, grows from the rim of an earth-lodge ruin. With primitive picks of antler, bone hoes, and stone axes, could it have been possible for the Indian to excavate great holes in the ground, eight to fourteen feet in depth and ninety feet in diameter, if forest trees had covered the ridges at the time the lodges were erected? The explorer with modern steel tools today finds it difficult to excavate in moved earth interlaced with masses of great roots and containing tree-stumps, and he has therefore come to the same conclusion he reached in the exploration of the Ponca Creek district, namely, that at the time these dwellings were erected the ridges were bare of timber and an extensive view could be had from their summits.

The vegetal mold covering the ruins is partially composed of wind-blown sand from the river bars, and it seems probable that the hills were formed in the same manner. Whatever deduction is made concerning the possible age of these dwellings must take into consideration the eighteen to twenty-four inches of vegetal mold, which, where trees and grasses are exposed to fire, and where even at this day the forest is sometimes ravaged by flames, must necessarily be of slow formation. The problem is one of geology; and without positive knowledge of what people erected these lodges, geology must approximate the time which must have elapsed while the vegetal mold was forming.

The circular ruins similar to those explored by the writer are seldom found far from the rugged hills bordering the Missouri river, the highway connecting the warmer regions of the south and the north Pacific coast. They seem to have been erected with little attempt at tribal formation, and vary in size from thirty to ninety feet in diameter and from one to nine feet in depth at the center at this day, the floor being four to five feet lower. The larger ruins in the Childs Point district average five to six feet deep on the present surface. A feature of the largest ruins is a graded entrance, opening to the south, from thirty to fifty feet in length and paralleled on each side by small ridges of earth sometimes three feet high but becoming lower at the farthest point from the house ruin. It is probable that these long entrances were covered with the same material and in like manner as the lodge. The average ruin, including Work A, has two entrances, one at the south and the other at the east. In Work A it was noted that the step, or platform, ceased in front of the entrances to the extent of the distance between two of the outer posts.

In summing up the results of exploration of the earth-lodge ruins in this section of the Missouri valley it must be noted that there is more than one kind of aboriginal habitation in a given area. One probably antedates the invasion of white people, while the other appears to have existed at the time of the coming of the whites. Whoever the builders of these ancient habitations may have been, it seems reasonable to credit them with the construction of a style of dwelling which was probably cool in summer and

warm in winter, able to withstand the tornadoes which even at the present day are too numerous and too severe for comfort, as the writer experienced during his spring work. It also seems reasonable to give these aboriginal builders the credit of being the originators of the celebrated Nebraska sod-house.

IMPLEMENTS, UTENSILS, AND ORNAMENTS

Stone Objects.—No spear-points have been found in any of the ruins explored by me or my associates, but arrowpoints, both with and without notches, are plentiful. Both types are generally well formed. They are usually found about the outer circle of the roof supports and in the caches.

Scrapers show the usual forms, but those of the longer-than-broad type prevail.

Cutting edges, showing one or more blades, appear to have been made of odds and ends of flint formed from rejects and of chips left from working other implements.

Diamond-shaped flint knives are numerous. These have four cutting blades and are well made (pl. 1, 1, *d*).

In at least two ruins small caches or deposits of flint had been laid in some order, the smaller pieces below covered by larger pieces as if for safe-keeping and where they could be found when occasion required for making into implements.

Two ground celts only were found; five others were of chipped flint (fig. 6, *b*). One of the former, finely made and still retaining a good cutting edge, is of diorite (fig. 6, *a*), the other is of granite. The latter appears to be very old and much weathered, probably from exposure to the elements before being covered by the house ruin. It lay nearly at what had been the top of the roof.



FIG. 6.—(a) Polished diorite and (b) chipped flint celts.

Many arrowshaft smoothers of yellowish Dakota sandstone were found. In all the ruins explored there were found, in addition, rectangular pieces of sandstone which seem to have been used for much the same purpose as sandpaper. The same kind of stone shows that it had probably been used for pointing implements, possibly bone awls or punches, being grooved in many directions.

Coarse red and gray pumice, which floats down the Missouri from well up in North Dakota, found in all the ruins and tumuli, also shows surfaces which suggest use as smoothing stones.

Calcined granitic rock, pink Sioux quartzite, and round drift pebbles the size of one's fist and smaller, all of which show marks of fire, are found in numbers on the floor surface and in all caches. The latter may have been used in heating water.

Shell Objects. — One small oblong piece of shell, worked down to shape, shows deeply incised lines following its longest diameter (pl. III, 1, *l*), while others have notches on the outer edge (pl. III, 1, *b, j*).

A rectangular piece of shell, with holes drilled in two corners.

A fish cut from a heavy *Unio* is carved in excellent form, with square tail and three fins. A hole drilled through the back from both sides suggests use as a pendant (pl. III, 1, *g*).

One scraper-shaped shell was found; its use is problematical.

More than a score of shell spoons(?), with edges beveled at right angles to the grain of the shell, were found; and small *Unios* show a slot cut through at the hinge (pl. III, 1, *i, k*).

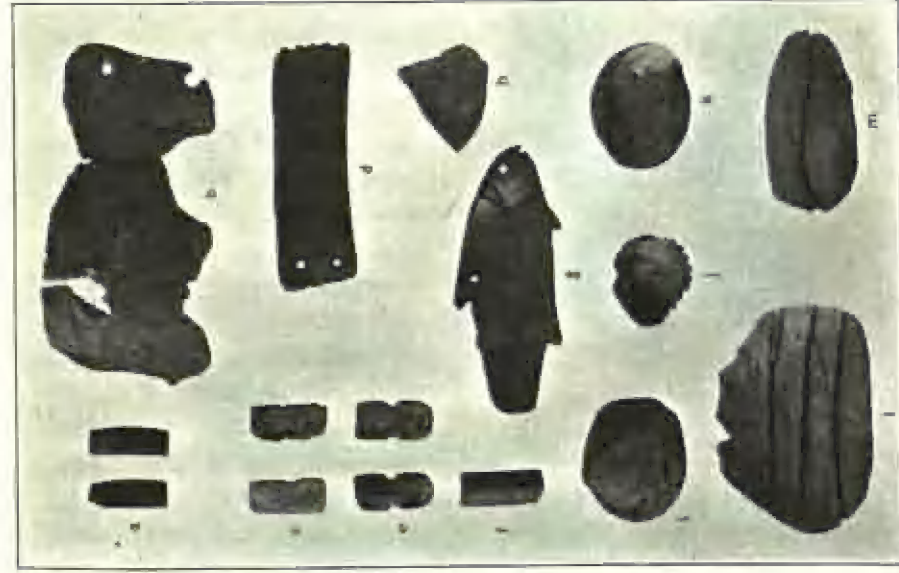
Pottery. — A large part of the pottery found in the caches and through the ruins is of excellent ware. No whole pot was found. In some instances the rims of two or more pots were found together in a pile. Much of the pottery was unearthed near what had been the roof of the lodge — as if it lay on the roof when the house fell in. Most of the vessels must have been provided with stout lugs, both ornamented and plain (pl. III, 2).

In many of the ruins balls of unbaked clay mixed with granitic binder, and others mixed with lime and sometimes with volcanic ash, were found. These, when not in caches, occurred near the remains of small fireplaces on the house floor.

Several small pots, some of which have been used as paint



a. Potsherds from cache pit.



a, b, Beaver-tooth pendants; c, bone anklet; d, e, f, shell pendants; g, Section of bone bracelet (1/2); h, Bone bead; i, shell pendant; j, ar, Shell ornaments and pendants.

receptacles, their inner surfaces being still thickly coated with vermilion or Indian red, were found almost entire. The color is easily rubbed off when moistened. Small pieces of undecorated rims and sherds, never large pieces, show a fine ware burned to a deep orange-red. The color runs entirely through the pottery. It was not met with in all the ruins, but was found in most of those explored on and near Childs Point. The commoner pottery shows a dull reddish exterior surface, while the interior is of light or dark bluish-gray.

Pottery Pipes. — In all, seven pottery pipes were recovered, five of them nearly perfect. A pipe from Work A is in the form of a soaring bird, feathers being represented by incised lines across both sides of the wings, at oblique angles to the body. The breast is well modeled, and the mouthpiece forms the tail of the bird. It is likely a bird's head was attached to the pipe, as the outer or front side of the neck shows a fractured edge (pl. v, 2, *b*). Another pipe is somewhat on the "monitor" model, while two other broken pipes indicate two of the latter sort (pl. v, 2, *a*).

Objects of Bone and Antler.

— Complete hoes and fragments formed from the scapulæ of bison, elk, and smaller animals, were of frequent occurrence throughout the ruins explored. The working edge of the blade is beveled and highly polished. Twenty perfect hoes were gathered. Implements formed from small scapulæ were probably used in pottery making; these show a beveled edge reaching to the socket end of the bone and indicate much use. The



FIG. 7. — Bone hoes.

supposition is that these bone hoes had been hafted, but occasionally one is found which shows a remarkable polish, as if produced by hand abrasion, throughout its length. Near the sharpened

edge of most of the larger hoes one or two notches have been cut (fig. 7, *a*); these show a wear and polish as if once bound with a thong or cord. One has a small hole drilled through one side opposite a notch on the other side (fig. 7, *b*).

Punches or awls were of frequent occurrence. These are symmetrically formed and highly polished (pl. iv, 1, *i-n*).

Bodkins show a hole at the larger end similar to the steel bodkins in use by whites today. They are skilfully formed and are very thin.

Needles are small in diameter, long and tapering, and still quite sharp (pl. iv, 2, *a-h, o-q*).

A pendant, or perhaps a bracelet, made from a bone worked down to about the twenty-second of an inch in thickness, is rectangular in shape, one by three inches, and has a drilled hole in each corner of one end (pl. iii, 1, *d*). It is slightly curved.

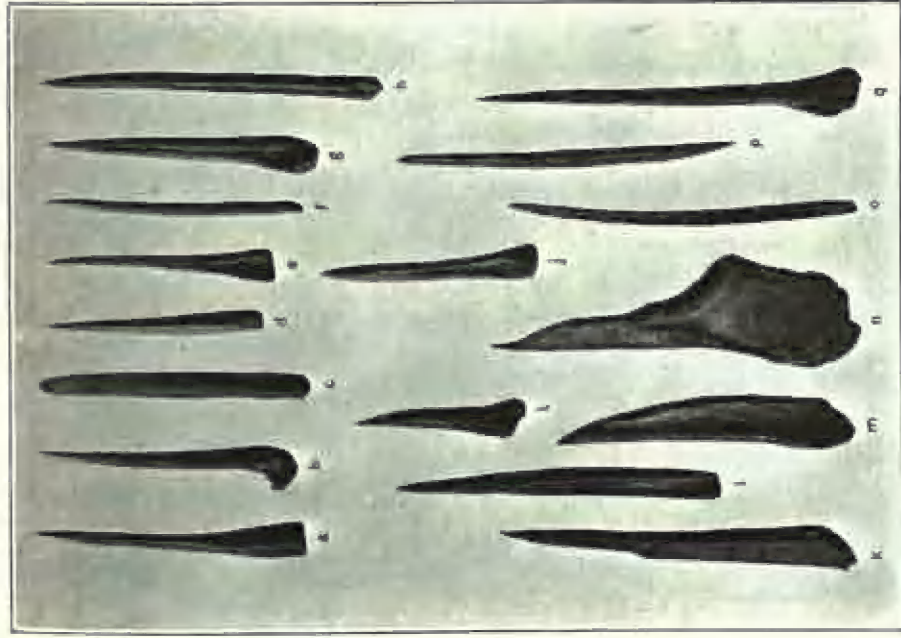
Five fish-hooks were found. One of these is made from a small pointed bone, about four inches long, with one end slightly curved; another is a well-formed plain hook, while the other three are splendidly made and notched on their outer elbow (pl. 1, 2, *a-e*).

Five antelope jaws show much use, each having a higher polish than any other of the bone implements. They have been evenly cut and pointed an inch in front of the premolars. Each shows two grooves on the inner surface, which seem to have been made by a thong, suggesting the fastening of a handle on the outer side of the jaw or its envelope by some sort of covering used probably as a handle and lashed in place. Small splinters chipped from the pointed end suggest use in flaking flint implements. All have seen much service. They have been evenly tempered by fire and are still firm in texture (pl. iv, 2, *b, d*).

One so-called bone buckle was found (pl. 1, 2, *f*).

Deer antlers with side prongs cut away suggest use as picks.

Gouges and grainers were of frequent occurrence. One of the latter shows much use (pl. iv, 2, *c*). Another, made from a similar bone, shows deep incised lines from one end to the other, as if the artisan had commenced to form a grainer; yet it is possible that the pieces intended to be cut out were designed to be worked into needles or other small implements (pl. iv, 2, *a*).



1. Needles and punches.



2. a, c, Grubbers; b, d, Antelope mandibles, of unknown use; e, f, Undetermined objects.

BONE OBJECTS



1.—2. Bison horn specimen (1); 3, 4, 5. "Pilot flakers"; 6. Haft for flint knife (pt.
1); 7, 8. Flint found with blade inserted in slotted haft; 9, 10. Bone objects; 11. Arrow-
shaft straightener.



9.—10. Pottery heads; 11, 12, 13, 14, 15, 16, 17, 18, 19, 20. Pottery pipes.

Bird and coyote bones were numerous in food caches, and fish spines, scales, and vertebræ were likewise common. Other animal bones and skulls found in house ruins have been identified as those of the bison, elk, mule-deer, antelope, squirrel, pocket gopher, and turtle. The skull and bill-core of a member of the heron family were also found.

Objects made from pieces of deer antler, with smoothed and polished surfaces and beveled ends, are of unknown use (see Post-script). Fourteen of these have been found (pl. v, 1, *b*, *f*). They suggest a short handle of some kind, but are neither notched nor grooved.

Another antler object shows skilful workmanship, but its use is not known (pl. 1, 2, *i*).

Still another, six inches in length, is artificially slotted at one end. Two small holes are drilled in two opposite sides, close to one end, and the part between split open, suggesting a haft possibly for small flint blades or cutting edges.

Two objects of antler, hacked and cut by rodents and possibly also with flint blades, might be hafts of some kind.

Pieces of scapulæ, polished to a high degree, may have been used as scrapers. An inch of the surface shows a polish, and it seems likely that the other portion was once covered with something like a piece of dressed hide to protect the hand of the user.

All bone and antler implements show hardening or tempering by fire, marks of which cover portions of their surfaces. Whenever bones other than those which show this tempering were found, or unless encountered well down in cache pits, they were greatly deteriorated.

Caches. — Caches were not built on a uniform plan. Some were slightly funnel-shaped, with the smaller end uppermost (fig. 2, *b*), but most of them were sunk into the earth at such an angle that the cache proper was just beneath the step or inner edge of the platform (fig. 2, *c*). The cache with its entrance was found to be two and a half to three feet deep, and either plastered or rammed, as the walls are still very hard. All the caches were filled with earth other than that in which they were excavated, and in almost every instance ashes covered the entrance in the floor. Sometimes charred grass

or reeds indicated a mat-covering. When a cache was located, a deep excavation was made at one side, and the contents thereby exposed in vertical section. The line of earth filling the caches and that of the hill was always strongly marked. Many of the caches were supplied with shelves, or niches, on which often rested the more valued objects (pl. vi).

In one cache a ball of finely grained clay mixed with beeswax was found. Its use is not known.

There were no evidences whatsoever that horses had been used by the house builders.

Sculpture. — Among the objects found in the earth-lodge ruins in the Childs Point district, and in similar earthworks two miles northward in Douglas county, are three sculptures representing human heads. One, from Work A, is of pink soapstone with what may be termed Oriental features. The eyes, made with incised lines, are "almond shaped," with closed lids; the nose is long and flat, and somewhat negroid; the lips are separated, the cheeks and chin are well rounded, and the forehead is high and broad, in good proportion to the remainder of the face. Two square "tabs" take the place of ears, and are similar to those on Egyptian reliefs and outlines. The object bears resemblance to the bowl of a small pipe. Its height is one inch, the diameter half an inch. Two posterior openings show finished edges; one is too small to admit a stem, while the other is rather too large. The interior of the bowl, which has been hollowed out with rude tools, shows no discoloration. An incised line encircles the top near the rim. For whatever purpose the object was designed, it has been carved with great delicacy. The face, which appears to represent that of a sleeping person, is decidedly feminine (pl. i, 1, a).

Another representation of a human head, showing decidedly masculine features, is made of a poorly burned, reddish-yellow clay with a very coarse binder. A prominent nose, the base of which springs from a low, retreating forehead, is of Indian type, but appears to be a caricature. The mouth is broad, and the chin strong and rather prominent. The eyes are represented by small lumps of clay, raised from the face an eighth of an inch, across which slits show the meeting of the lids. Small squarish pieces represent ears.



CACHE UNDER FLOOR OF EARTH LODGE

The throat is heavy and strong. The whole figure is exceedingly crude (pl. v, 2, c).

The third head differs materially from the other two. It is of the same material of which the better sort of pottery is made, and has been burned very hard. With the exception of the flattened posterior, the head exhibits little of any recognized Indian type. The face represents a person laughing, with mouth widely extended and eyes partly closed. The forehead is high and broad, the eyes well modeled and with brows slightly lifted, the nose somewhat aquiline, mouth firm, and chin well rounded. Instead of ears of one piece, three small raised squarish bits of clay, one above the other, give the impression at once of sparse side-whiskers. Examination shows that these were originally one piece, but that they were cut after the head was fired (pl. v, 2, a).

OMAHA EARTH-LODGE RUINS

During progress of the work in the Childs Point ruins I digressed long enough to spend part of a day on the farm of Amos Gates. It was here the Omaha lived last before going on a reservation, and where they were visited by the Swiss artist, Kurz. Some of the Kurz sketches, reproduced by Mr Bushnell in the January-March, 1908, issue of the *American Anthropologist*, show outlines of earth-lodges that were sketched on the Gates site at the time. I was anxious to compare the ruins of Omaha lodges with those in which I was working nearer the river. It was found that the ruins were quite shallow and had left but slight depressions, while others left small circular mounds above the surrounding level. The Rock Island Railroad has cut through the village, and at least one cache was exposed from top to bottom—about fifteen feet. In all instances the caches were outside the lodge sites.

The surface yielded fractured iron pots, Delft or figured china of white man's manufacture, and rusty iron objects, besides flint scrapers and chips, potsherds, and the usual accumulations of a village prior to contact with white people. The writer cannot attribute the flint implements to the Omaha, but considers the favorable site on a plateau at the junction of two streams to have been used by another people long before the Omaha erected their lodges there.

EXCAVATIONS BELOW CHILDS POINT

In the early part of April, 1908, not far from the south property line of the owner of Childs Point, Sarpy county, Nebraska, while ascending a steep ridge parallel to the Missouri river-bottoms, Mr J. E. Wallace, of Omaha, one of the writer's associates in archeological research, chanced upon human bones on the surface of the ground. He excavated near where the bones lay, finding a burial consisting of a very slight elevation on the ridge, two-thirds the distance to its summit. The mound was about forty feet long by fifteen to twenty feet broad. Operations at the southern or highest end of the mound resulted in unearthing ten skulls and a number of skeletal parts.

A few days later the writer assisted in the work and continued until forty crania had been obtained.

Our first work began in the northern or lowest end of the mound, where a rectangular excavation, four by five feet, was made. Fourteen inches from the surface a stratum of skulls and bones, including six of the former, was exposed. The skulls lay with crowns uppermost and faces to the northward. Between and on each side were piles or, more properly, bundles of the longer skeletal parts.

On removing the bones it was observed that many dissociated and fractured calcined bones lay scattered throughout the mound. Some of these calcined bones were as white as chalk, but firm in texture. The parts of the calcined skulls rang like glass when struck with a piece of steel. The action of fire was not noticed on skulls and bones which lay in actual contact with those that had been burned. All the entire skulls were rather soft when first removed, but hardened rapidly on exposure to sun and air. Some were filled with packed earth, while others, on the same level, were almost empty. One of them contained the nest of a field-mouse.

Eighteen inches below the first layer another stratum was found, in character much like the first—crowns uppermost and faces to the north, flanked on each side with long-bones. The calcined bones were as much in evidence in the second layer as in the first. Occasional bits of charcoal were encountered at all levels, as well as some baked loess, but there had not been sufficient fire used in the sepulcher to calcine the bones, and it is evident they had been subjected to heat prior to interment.

On the last day the excavation was enlarged, and a third stratum of skulls was found beneath the others. These lay without order, intermingled with skeletal parts. Thirty-nine skulls and many skeletal parts were taken from the mound.

Another skull, in pieces, was obtained by the writer several weeks later during a field meeting of the Nebraska Ornithological Union in the mound's vicinity. It was peculiarly marked by an incised line extending across the frontal and both temporal bones, and is among a number sent to Dr Hrdlička for examination.¹

Potsherds and flint scrapers, pumice, pieces of red hematite, and quartzite spalls, similar in every respect to objects found in Work A and other nearby ruins, were found with these remains, showing relationship between some of the skeletons and those of the occupants of the earth lodges described in this paper as surrounding the Wallace mound on three sides.

POSTSCRIPT

Two features bearing on the subjects discussed in this paper have been noted subsequently and are here given because of their connection with the subject matter treated.

In the latter part of October, 1908, while graders were leveling a loess-capped hill at the junction of Thirteenth and I streets, South Omaha, Messrs Wallace and Hughes found there three greatly fractured human crania and the tibia of a skeleton associated with several mortuary objects. The best preserved of the skull fragments show a moderately thick cranial wall, somewhat heavy supraorbital ridges (although not heavier than occasionally found among Indians), and an exceedingly flat forehead without frontal eminences. The site is well drained, and the bones lay under a mound so low that it could not be noted owing to the dense growth of shrubbery that covered the hill. The hill extends along the edge of the river-bottom and is about one hundred feet higher than the water level.

My two associates and the graders observed, two and a half feet from the surface of the hill, ten or twelve bright reddish spots in the loess, in three of which were the three broken skulls. These red-

¹ See specimen No. 251,894 in the accompanying description by Dr Hrdlička.

dish spots I found on examination to be loess burned to the consistency of soft brick, through which small flakes and pieces of red hematite were profusely scattered. When the plow passed through one of these red spots, so thickly was the color spread over its surface that the metal and wood were colored a bright vermillion.

The mortuary objects found with the skulls consist of two gorgets, one of slate (pl. I, 1, *c*), the other (the larger) of mica schist (pl. I, 1, *e*). Each gorget lay just above a skull and immediately over their orbital cavities.

Other objects with the remains were a small chert blade, several objects made from the anterior side of beaver-teeth (pl. III, 1, *a*), and a dozen finely made rectangular objects of shell, slightly notched at one end and each with three notches on each side (pl. III, 1, *c*, *e*). All the objects, with the exception of the chert blade, differ from anything hitherto found in this section.

Excavations in various parts of the same hill showed small pieces of human bones, but no skulls.

Five hundred yards directly west of the spot yielding the skulls, a house ruin of the kind hitherto described produced objects similar to those of Childs Point, among which was an incisor of a beaver, showing colors similar to the objects found with the skulls.

The second feature relates to the excavation of a house ruin south of the property line of Childs Point, from which were taken hundreds of fine implements cached nine feet beneath the surface. The cache had been filled with more than two cubic yards of ashes, through which implements were scattered. One of the objects was a crude spoon (?) of buffalo-horn, the bowl being a portion of the skull of the animal (pl. V, 1, *a*), and an object of antler, probably used for straightening arrowshafts (pl. V, 1, *g*).

On the eastern side of the ruin, five feet from the surface, I noted a vertical step similar to that found in Work A. About the floor, covering perhaps a square yard, were scattered a peck of small flint flakes and chips, and lying with them was the implement with which the primitive artisan probably had been working—a short smooth piece of antler showing a high polish, similar to the antler objects found in a spring in Oklahoma and which Prof. W. H. Holmes sug-

gests might have been used for flaking flint implements by percussion (pl. v, 1, *b, f*).¹

Other objects found in these ruins were many large flattened pieces of baked clay, one surface showing an impression like the grain of split wood, the opposite showing the imprint of small twigs and leaves. These were found within the ruin, not far from the rim about which the outer row of posts were placed. These specimens substantiate a conclusion based on a similar discovery, made earlier in the year, pointing to the use of a plaster of clay in some part of the house construction and which became baked when the house was destroyed by fire.

Five feet south of the point where the primitive artisan sat chipping his flint implements, I found another cache, the bottom of which was twelve feet from the present surface and about eight feet from the surface of the lodge floor. A sherd nearly a foot long by eight inches wide; a small mortar made of a drift pebble, two inches deep by three inches in diameter, showing a very slight "dish," and a charred corncob, were found. The cob, which was scarcely three inches in length by three quarters of an inch in diameter, shows that the grains were not larger than those of our popcorn, and had twelve rows of kernels.

The filling of the cache consisted of alternate layers of gray ash and the usual cache "dust" to within three feet of the bottom; above that occurred surface earth—a mixture of rather dark and light soil—then clay, probably placed in the opening and tamped while wet, the line of demarcation between it and the surrounding loess being very plainly marked.

OMAHA, NEBRASKA.

REPORT ON THE SKELETAL REMAINS

By ALEŠ HRDLÍČKA

The collection of human bones presented to the National Museum by Mr Gilder consists of two small lots, all in a more or less imperfect condition. There are in all six skulls, several long-bones, and two pieces of a skull which show the effect of cremation.

¹ Flint Implements and Fossil Remains, *Annual Report Smithsonian Institution*, 1901, p. 247, pl. 24, 25.

None of the specimens bears evidence of great antiquity, and one of the skulls appears to be quite recent. All show well-defined characteristics of the Indian race. They present but few lesions, and no sign of syphilis or tuberculosis.

Two of the skulls are flattened posteriorly, the result of cradle-board pressure. Of the non-deformed skulls, one is strictly dolichocephalic, while three show typical brachycephaly. These conditions indicate the presence of at least two, and possibly three distinct tribes of Indians.

The dolichocephalic skull represents people of the type of the majority of the Plains Indians and of the Algonquians, while the brachycephalic crania connect more immediately with those of the same type in Iowa, and remotely with the round-head people of the South Central and Gulf states.

The individual specimens may be described as follows:

Catalogue No. 251,893. — A defective skull, found buried in the earth taken from one of the circular earth-lodge ruins. The frontal parts are missing. The cranium is plainly that of an adult male, and shows no deformity. It is of fair size, of ordinary thickness (left parietal above the squamous suture 5-7 mm.), and brachycephalic in form. The ridges and processes indicate strong but not excessive musculature. The left mastoid shows an old perforation, the nature of which is not clearly discernible. The upper jaw presents alveolar prognathism and deep canine fossæ. The lower jaw is strong; height at symphysis 3.4 cm. The teeth are of moderate size and without abnormality in number or form; they are worn off to about two-thirds of their height above the alveoli.

With this skull was found a piece of an adult femur; it shows moderate strength and pronounced platymery (3.4×2.25 cm. at the broadest part of the flattening).

Catalogue Nos. 251,889, 251,890. — These two crania, which were marked respectively *A* and *B* by the collector, are from a mound near Bellevue, Nebraska. No. 251,889, the darker specimen, is from a superficial position, having been found about eighteen inches from the surface; while the lighter skull, No. 251,890, is from the lowest level of the mound. Both specimens are damaged, the former lacking all parts of the face, the latter, parts of the posterior facial structure.

No. 251,889 is apparently a male skull, though there remains some doubt as to the sex; it is symmetric, in no way deformed, quite heavy, and brachycephalic. No. 251,890, plainly the skull of a female, is light, and shows marked occipital flattening, on account of which its normal shape cannot be positively determined.

Neither of the specimens shows any important anomaly or other

special features. The principal determinations and measurements are as follows:

	251,889	251,890
Approximate age	50	25
Diameter antero-posterior	17.1 cm.	(15.0 cm.)
Diameter lateral maximum	14.3 cm.	(13.6 cm.)
Basion-bregma height	12.9 cm.	(12.7 cm.)
Cranial index	83.6 cm.	?
Height-length index	75.4 cm.	?
Height-breadth index	90.2 cm.	?
Cranial module	14.77 cm.	13.77 cm.
Capacity	1245 cc.	1080 cc.
Thickness of left parietal above squamous suture	5-6 mm.	4-5 mm.
Menton-nasion height	?	10.3 cm.
Alveolar point-nasion height	?	6.0 cm.
Basion-alveolar point length	?	about 10.0 cm.
Basion-nasion length	10.1 cm.	8.9 cm.
Diameter frontal minimum	9.7 cm.	8.7 cm.
Lower Jaw: Diameter bigonial	?	8.9 cm.
Angle, mean	?	125°
Height of symphysis	?	2.95 cm.
Orbits, height, right	?	3.4 cm.
Orbits, breadth, right	?	3.9 cm.
Nose, height	?	4.4 cm.
Nose, breadth	?	2.4 cm.
Palate, external length (Turner)	?	5.3 cm.
Palate, external breadth (Turner)	?	6.4 cm.
Foramen magnum, mean diameter	3.0 cm.	3.0 cm.
Circumference, maximum above ridges	49.0 cm.	45.8 cm.
Arc nasion-opisthion	34.3 cm.	33.2 cm.

Catalogue No. 251,891. — This skull was found by Mr Harry Jewell, of Omaha, in a mound, approximately three feet high and eighty feet in diameter, about two miles from the Council Bluff of Lewis and Clark, in Washington county, and some six miles north of the "Gilder" mound. There were parts of several skeletons, flint chips, and a piece of rubbed sandstone.

This cranium is that of a male of about fifty-five years of age. It is well developed, shows no deformation, nor any lesion except accidental breaks, and is decidedly brachycephalic, in type much like skull No.

251,889 from the mound near Bellevue. Unfortunately the facial parts have been lost, but the lower jaw remains. The few measurements which the specimen yields are as follows :

Diameter antero-posterior	about 18.0 cm.
Diameter lateral maximum	15.7 cm.
Height	Medium
Capacity	Fair
Thickness of left parietal above squamous suture	5-7 mm.
Circumference maximum above ridges, approximately	53.5 cm.
Lower jaw : Diameter bigonial	9.7 cm.
Height of symphysis	about 4.0 cm.
Angle	near 115°

Catalogue Nos. 251,892 and 251,894. — Two skulls from the Wallace mound, Sarpy county, Nebraska. Skull 251,892 is that of an aged female, and shows pronounced occipital flattening or cradle-board compression. No. 251,894 is the skull of a young adult male, with a slightly asymmetrical occiput, but without flattening. The form of No. 251,892 cannot be determined on account of the flattening; No. 251,894 is brachycephalic.

Cranium No. 251,892 seems to be comparatively recent, more so than the other skull from the same mound. Judging from the supra-orbital ridges, mastoids, and styloids, all of which are somewhat more developed than in the average female, it belonged to a woman accustomed to considerable muscular labor. The face shows quite marked alveolar prognathism and canine fossæ, the depth of which is accentuated by senile sinking in. The sutures, as in all the specimens of the Gilder collection, show sub-medium serration and but few Wormians. The specimen presents no artefacts or disease. Its measurements are :

Diameter antero-posterior	(15.5 cm.)
Diameter lateral maximum	(15.0 ")
Basion-bregma height	(13.8 ")
Thickness of left parietal above squamous suture	5-6 mm.
Diameter bizygomatic maximum	13.8 cm.
Basion-nasion length	9.8 "
Diameter frontal minimum	9.1 "
Height of nose	5.25 "
Diameter of foramen magnum	3.3 "
Circumference maximum above ridges	48.4 "
Arc nasion-opisthion	33.7 "

Specimen 251,894 is in pieces, and unfortunately some important parts which would have made possible its reconstruction are missing.

The skull was apparently one of normal development and is that of a male of only moderate musculature. The only measurements possible are :

Thickness of left parietal above squamous suture	5-6 mm.
Diameter frontal minimum	9.0 cm.
Mean diameter of foramen magnum	3.3 "
Lower jaw :	
Height of symphysis	3.4 cm.
Angle	127°

The skull presents interesting and extensive artefacts of a peculiar nature. Over the frontal, parietal, and part of the occipital are connected and to some extent symmetric, irregular grooves, which appear as if made with a coarse implement such as a stone axe, or a large stone knife. They

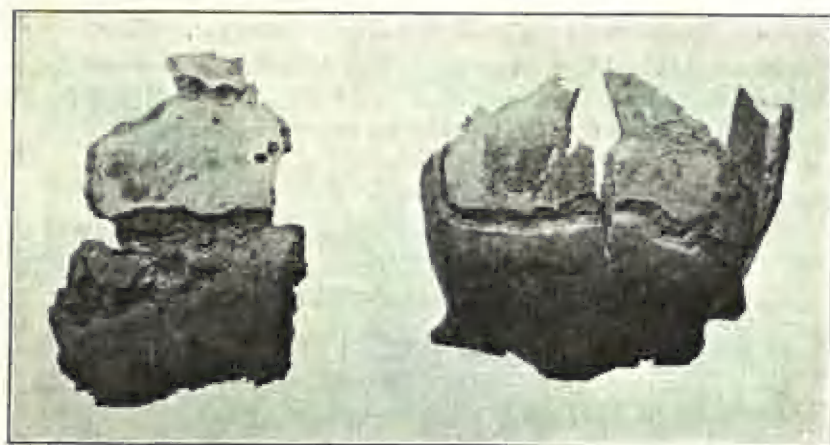


FIG. 8.—Skull from the Wallace Mound.

are from two to four millimeters deep, and range from six to more than twenty millimeters in breadth. They present clean though irregular and grossly serrated edges in the outer compact layer of the bone in the front, but become more diffuse in the back, particularly over the posterior part of the right parietal and on the right half of the occipital squama. They reach well into the cancellous tissue, and in places, particularly in the back on the right side, to the ventral compact layer. On the occipital this compact layer shows a number of small perforations, apparently the result of inflammation or suppuration. There is nowhere in the grooves or in their vicinity any hypertrophy of the bone tissue, but there are numerous places which show what appears to be slight repair, from which it would seem that the injury was inflicted during the life of the individual, who

survived for some time at least. The outline of the main groove over the frontal and parietals surrounds in an irregular circular way the crown of the head, and might suggest a crude attempt at scalping; but there are grooves also within this circle, particularly one along the sagittal suture. Nothing suggests that the injury might be due to the growth of roots or to the gnawing of animals. Possibly further specimens from the same region will shed light on the exact nature of the peculiarity. (See fig. 8.)

Besides the two skulls noted above, Mr Gilder presented to the National Museum two pieces of an adult male skull, both of which are calcined, due possibly to the cremation of a captive. There are, furthermore, three long-bones which proceeded from the left side of apparently the same individual. The femur measures 44.4 cm. in length and shows a pronounced platymery (3.45×2.6 cm. at the greatest breadth of the subtrochanteric flattening), and it also shows a well-developed third trochanter. The shape of the shaft, in transverse section at the middle, is intermediary between triangular and rounded (1-R); linea aspera well-developed.

The left tibia is of moderate length; diameters at middle 3.4×2.1 cm., showing moderate platycnemism; shape of transverse section of shaft at middle, 4; prominent popliteal ridge.

The left humerus, 31.8 cm. long, measures 2.4×1.8 cm. at the middle; shape of transverse section of shaft at middle, 1-4; no anomalies.

The bones indicate a male adult of moderate stature, and good but not excessive musculatory development.

U. S. NATIONAL MUSEUM,
WASHINGTON.

SOME UNUSUAL IROQUOIS SPECIMENS

By M. R. HARRINGTON

WHILE gathering ethnological material among the Canadian Iroquois in the summer of 1907, the writer was fortunate enough to secure, besides a fair typical collection of ceremonial paraphernalia, weapons, games, costume, and domestic utensils, a number of unusual specimens, the description of which may prove of interest to students of Iroquois culture. As in the case of the Delaware material described in a previous article,¹ which



FIG. 9. — Onzida wooden bowl.

was collected during the same season, the majority of these specimens may now be found in the collection of Mr Erastus T. Tefft of New York, who furnished the photographs for this article not otherwise credited. Only approximate measurements of the Tefft speci-

¹ Harrington, *Vestiges of Material Culture among the Canadian Delawares*, *American Anthropologist*, 1908, N. S., X, no. 3, pp. 408-418.

mens can be given, however, the collection being in storage and, for the present, not accessible.

The old wooden bowl illustrated in figure 9 is perhaps the most striking object in the collection. It is oval in outline, with a length of perhaps fourteen inches, and seems, judging from the curling grain of the wood, to be made from a burl, perhaps of black ash or elm. Its chief claim to interest lies in the carved handles, of which there are two, one at each end, rising from the nearly horizontal rim. Each handle represents the upper portion of two human figures standing side by side, the arm of the left-hand figure in each case being thrown affectionately about the neck of its neighbor to the right. The eyes are represented by white beads imbedded in the wood. Although one of the heads is missing and the bottom somewhat decayed, this specimen remains the best bowl of Iroquois origin yet seen by the writer. It was purchased from the Oneida near St Thomas, Ontario, who claimed that it had been brought by the late chief Snagalis from the old home of the Oneida in New York state.

Another fine but simpler old burl bowl, also obtained here, is oval in outline with the rim rising in graceful points at either end, resembling the form prevalent among the Delawares and eastern Chippewa. The Mohawk near Deseronto, Ontario, sold me a still better specimen of the same kind, said to have been brought from the Mohawk valley, while a round burl bowl for the peach-stone dice game was procured from the Onondaga near Syracuse, New York. I mention these burl bowls especially on account of their rarity among the Iroquois, whose bowls for domestic use are generally long, tray-like, and of soft wood; while their round gambling bowls, although made of hard wood, seldom show the use of a burl as material.

The theory that the modern "gunstock" war-club with its steel blade is descended from the prehistoric hafted celt receives support from the discovery of the mounted celt, shown in figure 10, *a*, in the hands of an old Cayuga named Thomas Davy, at Six Nations reserve, near Brantford, Ontario. The old man claims that this "tomahawk" once belonged to his father, and that it is very old. He painted it black a few years ago, he told me, to preserve it from

the dry-rot which had attacked the handle. The celt itself is of the thin flat variety frequently picked up on New York Iroquois village sites, while the handle seems also of old type, although its exact age would be difficult to determine. A similar, but newer specimen, also from the Cayuga of Six Nations reserve, is the war-dance club shown in figure 10, *b*, into which a prehistoric flint blade

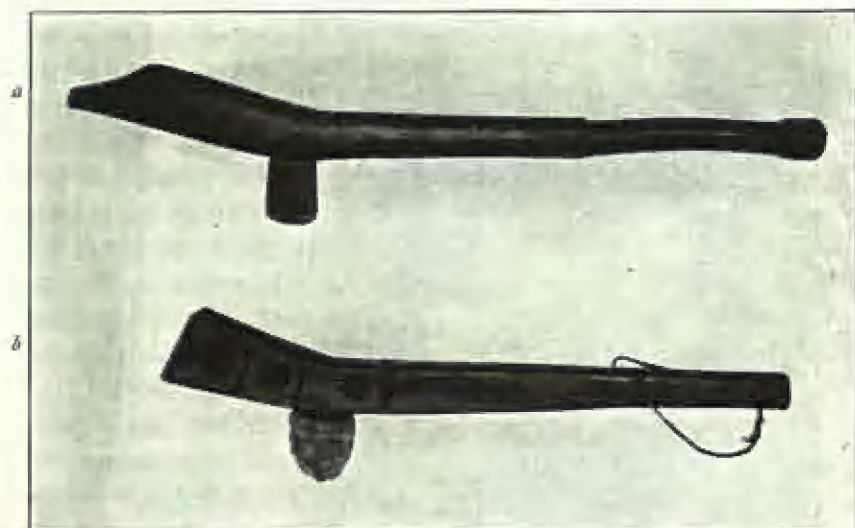


FIG. 10. — *a*, Cayuga mounted celt; *b*, Cayuga war dance club.

has been fastened. Clubs of this type with steel blades or deer-horn spikes are still occasionally seen among the Six Nations.

Witchcraft is still widely credited by the Iroquois, who believe that the sorcerers can transform themselves into animals—hogs, dogs, and especially owls, in which form they sally forth on their unholy nocturnal errands. These amazing transformations are effected by means of a mysterious chasm or "witch medicine" known in Cayuga as *otko'tra'* or *úitgo'tra'*. Two of these were obtained from the heirs of the late James Jamieson, a Cayuga. They consist of bits of woody root, one, the larger and older, being about an inch and a quarter long by half as thick, with the surface fairly covered with tiny carved faces of men and animals; while the smaller, about half as large, bears but one carved face. They are

provided with deerskin covers, and are kept in a special deerskin bag. (See fig. 11).

Among James Jamieson's effects was also a photograph of one of his family—a son, I believe,—lying dead. Sewed fast to the cardboard all around the picture of the corpse were dozens of tiny

human figures carved from what appeared to be bone, but which on closer examination proved to be made from date-stones. I tried my best to get from the Jamiesons an explanation of this grotesque little mystery without success, so finally decided not to buy the figures, as their origin and use were in doubt, and their material certainly not Indian. But when I later told Chief John A. Gibson what I had seen, he informed me that certain Indians were sometimes favored by the mythic dwarfs known as Stone-rollers¹ who appeared



FIG. 11. — *a*, Cayuga "witch medicine"; *b*, Deerskin cover for same; *c*, Smaller "medicine" in cover.

to them in dreams and promised them aid and protection on condition that they would carve little figures to represent their pygmy race, which must be carefully cared for and "talked to" from time

¹ Converse, *Myths and Legends of the Iroquois*, *Bulletin 125, N. Y. State Museum*, 1908, p. 101 et seq.

to time. This may have been the explanation of the date-seed figures.

Also connected with dreams are the miniature dugout canoes, three or four inches long, of which several specimens were secured. Some being, apparently a water-sprite, whose name and characteristics were not made clear to me, appears to an Indian in a dream, giving warning of danger by water, but promising protection if a little canoe be made and kept, and tobacco burned in his honor at intervals. In similar fashion a little beadwork disk with a center of wampum represented to its owner the promise of the sun, given in a dream — a promise of protection and aid.

That games were sometimes played in obedience to dreams is exemplified by a set of plum-stone dice purchased from Lucy Pierce, a Cayuga, at Onondaga Castle, New York. Mrs Pierce informed me how she had been promised good health in a dream if she would make plum-stone dice and play with them from time to time. It should be noted here that while peach-stone and bone dice are frequently found today on the Iroquois reservations, plum-stone dice are very rare.

A similar belief is found among so-called Seneca in Oklahoma, where certain individuals hold games of lacrosse or Indian football at intervals in response to dreams, for the benefit of their health. At these games the "patient" provides a feast for the crowd and is supposed to receive benefit from the dream-spirit who is pleased by the game.

Before visiting the Six Nations reserve I had obtained but three types of masks from the Iroquois; large wooden masks, called *ho'do'wi'* in Onondaga, used in the rites of the "False-face Society"; miniature masks of wood or stone kept as health charms, called *goya'danu'na*; and another large variety known as *gajf'sa'*, made entirely of corn-husks and used by the Husk-face Society.

But on reaching the Onondaga of Canada, I found besides these "familiar faces" a variety entirely new to me — a mask known as *ow'e'ga gajf'sa'*, "wooden bushy-head" which, although made of wood, belongs to the Husk-face Society and is classed as a *gajf'sa'*. In appearance its connection with the Husk-faces is shown only by its encircling fringe of shredded husk representing

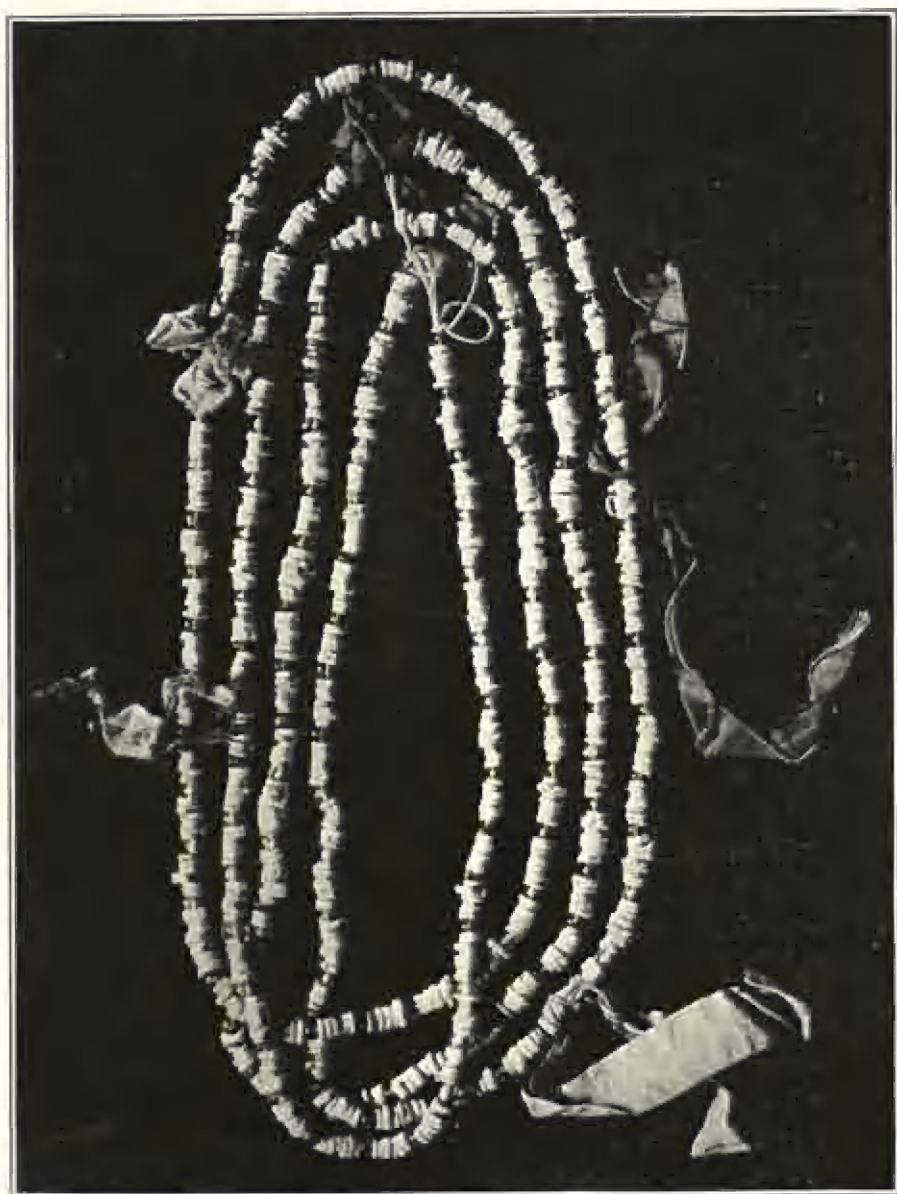
hair. It differs however from the common wooden mask, or *ha'do'wi'*, in that it is carved to represent a normal human face, not distorted and hideous, while the painting is confined generally to a round spot of red on each cheek. It is considered more powerful than the ordinary Husk-face.

Chief John A. Gibson informed me that a peculiar rattle bought from the Cayuga, made by attaching a bunch of deer-hoofs and phalanges, each on a separate string, to a short wooden handle, is intended for use by the Little Waters Medicine Society¹ in a dancing ceremony and feast for the "renewal of membership"; but is not used at the night song, the only rite of the Little Waters with which I had previously been familiar. I had purchased a similar rattle from an eastern Chippewa shaman at Walpole Island, Ont., but had never before seen one among the Iroquois.

The few remaining Indians of Tutelo blood on Six Nations reserve are so assimilated with the Cayuga with whom they live that it will not be out of place to mention them here. Of their old tribal culture there remain only a few words of Tutelo speech, and a remnant of their dances, songs, and ceremonies, while among ceremonial objects the Tutelo wampum alone remains different from that of the Iroquois. These archaic beads, known to the Cayuga as *ganu'gwi'ya'*, are flat thin fragments of some shell, probably marine, roughly ground into the form of irregular disks about a quarter of an inch in diameter and perforated (pl. VII). They are usually strung in the form of a necklace, with glass beads interposed at intervals, and decorated with gay ribbons, for use in the Tutelo adoption ceremony.

If a Tutelo family lost a member and wished to adopt an outsider to take the place of the deceased, they took material for a costume to the home of the person selected, whose family made it into clothing, which was returned to the mourners. On the night of the feast held in honor of the dead this costume was put on the person to be adopted, and the necklace, *ganu'gwi'ya'*, placed about his neck in token of his change of tribe, to be worn until morning, when the feasters dispersed to their homes.

¹ Parker, Neh Ho-noh-tci-noh-gah, the Guardians of the Little Waters, a Seneca Medicine Society, in "Iroquois Myths and Legends," *Museum Bulletin* 125, N. Y. State Museum, 1908, p. 149 et seq.



TUTELO WAMPUM

Since my visit to Six Nations reserve there is, I understand, but one string left among the Indians, the owner of which, Mrs Husk, "refuses to sell at any price," as she keeps it to rent to other Tutelo when needed. One of the three strings I collected is now in the Tefft collection, one in the collection of George G. Heye, Esq., and one in the New York State Museum, which already had a portion of a similar string, the origin of which was not known.

PAWNEE, OKLAHOMA.

EOLITHIC AND PALEOLITHIC MAN

By GEORGE GRANT MACCURDY

The last two years have witnessed important developments in the domain of prehistoric anthropology. This is particularly true of the European field and of discoveries in which skeletal remains of early man have figured. One such was discussed by me recently in this journal,¹ viz., that of *Homo Mousteriensis*. Two others form the subject of the present paper. The first of these was made by Dr Otto Schoetensack² on October 21, 1907, in a sand-pit near the village of Mauer, ten kilometers southeast of Heidelberg. Mauer lies in the valley of the Elsenz, a tributary of the Neckar. The human lower jaw was found in situ in the so-called Mauer sands, at a depth of 24.10 meters and .87 meter from the bottom of the deposit. The first 10.92 meters at the top of the section are composed of loess which is classed as upper Quaternary, while the Mauer sands forming the rest of the section are lower Quaternary. The loess itself represents two district periods, an older and a younger.

The horizon from which the human lower jaw came has furnished other mammalian remains, including *Felis spelæa*, *Felis catus*, *Canis*, *Ursus arvernensis*, *Sus scrofa* var. *priscus*, *Cervus latifrons*, *Bison*, *Castor fiber*, *Equus*, *Rhinoceros etruscus*, and *Elephas antiquus*.

Schoetensack likens the fossil mammalian fauna of the Mauer sands to the preglacial Forest beds of Norfolk and the upper Pliocene of southern Europe. This is particularly true of *Rhinoceros etruscus*, and the horse of Mauer which is a transition form between *Equus Stenonis Cocchi* and the horse of Taubach, both of which may be referred definitely to the Pliocene. The rest of the mammalian fauna belongs to the lower Quaternary.

The coëxistence of man with *Elephas antiquus* at Taubach, near

¹ Some Recent Paleolithic Discoveries, *American Anthropologist*, Oct.-Dec., 1908.

² *Der Unterkiefer des Homo Heidelbergensis aus den Sanden von Mauer bei Heidelberg: Ein Beitrag zur Paläontologie des Menschen*, von Otto Schoetensack. Mit 13 Tafeln, davon 10 in Lichtdruck. Leipzig: Verlag von Wilhelm Engelmann, 1908.

Weimar, gave Schoetensack special reasons for expecting to find human remains also at Mauer. The possibility of such a discovery had kept him in close touch for twenty years with the owner of the sand-pit, Herr J. Rösch. The discovery was made by one of the workmen, with whom at the time were another workman and a boy. Schoetensack was immediately informed, and arrived the following day. The lower jaw was intact, but the stroke of the work-

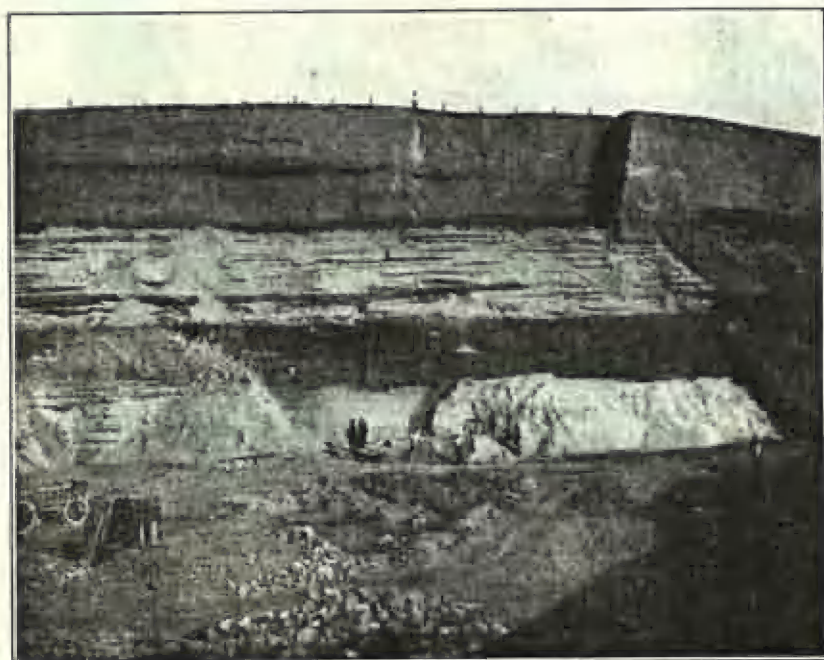


FIG. 12. — Sand-pit at Mauer. The lower jaw was found at the spot marked with a cross.

man's shovel had caused the two halves to separate along the line of symphysis. It was discolored, and marked by incrustations of sand exactly as are all fossil bones from the Mauer sands. A limestone pebble was so firmly cemented to the left half of the jaw, covering the premolars and first two molars, that the crowns of all four stuck to the pebble when the latter was removed. Both the jaw and the pebble were marked by dendritic formations.

Perhaps the first thing to attract one's attention is the absence

of a chin. The region of the symphysis is somewhat gorilloid, while the ascending ramus suggests rather the gibbon. The teeth, however, have a distinctly human stamp, not only in their general appearance, but also in point of size—larger than the average, but smaller than in exceptional cases to be found among the Australians, for instance. One is impressed, in fact, by the relative smallness of the teeth as compared with the jaw in case of *Homo Heidelbergensis*. The alveolar arch is long enough, for example, to allow space for



FIG. 13.—The lower jaw of *Homo Heidelbergensis*.

a fourth molar. I noted the same phenomenon in a collection of recent crania from Gazelle peninsula, New Britain.¹ In one of these the alveolar arch of the upper jaw projects 12 mm. beyond the third molar, while the average for the males is 8.6 mm. Respecting the series of lower jaws, I quote from my paper read in 1902: "The third molar is generally situated well in front of the ascending ramus of the lower jaw, when the jaw is so held as to bring the anterior margins of the rami in a line with the eye. With the jaw held in this position, the entire crown of the third molar can be seen in thirteen out of a total of eighteen cases."

The crowns of the teeth in the Mauer specimen are worn enough to show the dentine, proof that the individual had reached

¹ *American Anthropologist*, 1902, N. S., IV, 474.

the adult stage. All the molars, except the third left, have five cusps. The tendency in recent man is toward a four-cusp type for the third molar, if indeed there be a third molar. The breaking away of the crowns of four teeth on the left side tended to facilitate



FIG. 14. — The lower jaw of *Homo Heidelbergensis* (about $\frac{3}{4}$).

the study of the pulp cavity and walls. This study reveals the fact that the dentition of *Homo Heidelbergensis* represents a youthful stage in the dentition of the modern European. That is to say, in the ontogeny of the latter, a stage representing adult dental characters when the race was young is now reached at the age of from nine to fourteen years. This is not an anthropoid character, but a primitive human character — another reason for leaving the anthropoids to one side in our search for the ancestral form and the origin of genus *Homo*.

A study of the corpus and ramus mandibulae reveals at once a number of points of divergence from the modern European. The

body is massive, and relatively long in proportion to the bicondylar breadth, its greatest height being in the region of the first and second molars. The basis mandibulæ, if applied to a plane, touches only on either side of the symphysis and near the angulus, forming three gentle arches—one medium and short, called by Klaatsch *incisura submentalis*; and two lateral and long, to which might be given the name *incisura basilaris*. The latter is seen to good advantage also in the chimpanzee.

The ramus is characterized by unusual breadth, 60 mm. as opposed to an average of 37 for recent examples. The angle formed by lines tangent to the basis and the posterior border of the ramus is 107° —smaller than the average. The processus coronoideus is exceedingly blunt, and the *incisura mandibulæ* correspondingly shallow. The condyloid process is noteworthy on account of the extent of articular surface, due to an increased antero-posterior diameter (13 and 16 mm.), since the transverse diameter is relatively short. The neck constriction is very slight, approaching in this respect the anthropoid forms.

The first fossil lower jaw to attract world-wide attention on account of its primitive characters and association with remains of the mammoth and rhinoceros, was that found in 1866 by Dupont in the cavern of La Naulette, valley of the Lesse, Belgium. It was only a fragment, but enough remained to demonstrate the complete absence of chin and the nature of the dentition. Its kinship with the man of Neanderthal, whose lower jaw could not be found, was evident. It tended therefore to legitimize the latter, which hitherto had failed of general recognition. The fortunate association of skull with lower jaw came in 1886, when the remains of two individuals were discovered in the cavern of Spy, also in Belgium. In the same layer were found not only remains of the mammoth and the rhinoceros, but also an industry of the Mousterian type.

Among the human remains found in 1899 by Professor Gorjanović-Kramberger at Krapina, there are parts of a number of lower jaws that bear the same racial characters as those of La Naulette and Spy. They were also associated with a Mousterian industry. Instead, however, of the *Rhinoceros tichorhinus*, as at Spy, there were remains of *Rhinoceros Merckii*, an older type. This may be

accounted for by the fact that *Rhinoceros Merckii* would persist longer in the south than in the north.

That the lower jaws of La Naulette, Spy, and Krapina represent one and the same stage in the evolution of *Homo sapiens*, there is no longer any doubt. That this stage is intermediate between recent man and *Homo Heidelbergensis*, a careful comparison of the specimens in question furnishes ample proof. The lower jaw from Mauer is therefore pre-Neanderthaloid. That it also exhibits pre-anthropoid characters gives it a fundamental position in the line of human evolution.

Dr Schoetensack is to be congratulated on his rich reward for a twenty years' vigil. Let us hope that his reward for the search after human industry in the same deposits may be speedy and ample.

The lower jaws of the Neanderthal, or so-called *primigenius*, type, mentioned above, were all found in cavern or rock-shelter deposits. These cannot be definitely correlated with river-drift and loess; hence we cannot measure the time that separates the man of Spy from *Homo Heidelbergensis*. Judging from somatic characters alone, the time separating the two must have been considerable.

The Mousterian industry which is found associated with *Homo primigenius* occurs in deposits that mark the close of the middle Quaternary, and also in cavern deposits corresponding to the base of the upper Quaternary. It belongs to the transition from the Riss glacial period to the Riss-Würm interglacial period. At Wildkirchli, in the Alps, it is frankly interglacial, a station that probably belongs to the close of the Mousterian epoch.

The position of the Mauer lower jaw near the bottom of the old diluvium, and its association with the remains of *Elephas antiquus* and *Rhinoceros etruscus*, suggest for it a place at least as far back as the lower Quaternary. But the industry of the lower Quaternary is eolithic, the evolution of the Chellean type not taking place until the middle Quaternary. The probabilities are, therefore, that if Schoetensack finds any artifacts in the horizon of *Homo Heidelbergensis*, they will be of the eolithic type. Such a discovery would establish not only the identity of the maker of Quaternary eoliths, but would also help immensely to solve the riddle of Tertiary eoliths (Boncelles, Cantal, Chalk Plateau, etc.).

The most recent discovery of paleolithic human remains was made on August 3, 1908, by the Abbés J. and A. Bouyssonie and L. Bardon, assisted by Paul Bouyssonie, a younger brother of the first two. It is in many respects one of the most satisfactory, particularly on account of the pieces being so nearly complete. The locality is the village of La Chapelle-aux-Saints, twenty-two kilo-



FIG. 15 — Skull of Monstérien age from the cavern of La Chapelle-aux-Saints (Corrèze), France.

meters south of Brive, in the department of Corrèze, which forms a part of one of France's celebrated cavern belts, including Dordogne and Charente to the west.

It was only a few months earlier, and in this same belt, cavern of Le Moustier, valley of the Vézère, that Herr O. Hauser found *Homo Mousteriensis*. The discovery at La Chapelle-aux-Saints was also made in a cavern a short distance from the entrance. It includes not only human bones, but also stone implements and the remains of the reindeer, Bison (or Bos), *Equus*, *Capra ibex*, *Rhinoceros tichorhinus*, etc.

That this may have been a burial is suggested by the disposition of the human remains which seemed to lie in a rectangular pit sunk to a depth of thirty centimeters in the floor of the cavern. They were covered by a deposit intact thirty to forty centimeters thick, consisting of a magma of bone, of stone implements and of clay. The stone implements belong to a pure Mousterian industry. While some pieces suggest a vague survival of the Acheulian implement, others presage the coming of the Aurignacian. Directly over the human skull were the foot-bones, still in connection, of a large bovine animal — proof that the piece had been placed there with the flesh on, and proof, too, that the deposit had not been disturbed. Two hearths were noted also, and the fact that there were no implements of bone, the industry differing in this respect from that at La Quina and Petit-Puymoyen (Charente), as well as at Wildkirchli, Switzerland.

The human bones include the cranium and lower jaw (broken, but the pieces nearly all present and easily replaced in exact position), a few vertebræ and long-bones. The ensemble denotes an individual of the male sex, whose height was about 1.60 meters. The condition of the sutures and of the jaws prove the skull to be that of an old man. The cranium is dolichocephalic, with an index of 75. It is said to be flatter in the frontal and occipital regions than those of Neanderthal and Spy.

Beyond the loss of teeth, due evidently to old age, the skull is so nearly intact as to make possible the application of the usual craniometric procedure, thus leading to a more exact comparative study than has been possible, for example, in all previously discovered paleolithic human skulls dating from the same period, not excepting even Spy and *Homo Mousteriensis*. This is particularly true of the basi-occipital region, the upper jaw, and the face-bones. We

are thus enabled to supplement our knowledge of Mousterian craniometry at several points and to correct it at others. This is the first case, for example, in which the foramen magnum has been preserved in human crania of the Mousterian type. It is found to be elongated, and is situated farther back than in modern inferior races. The character of the inion and its relation to the cranial base is revealed for the first time. The same may be said of the palate, which is relatively long, the sides of the alveolar arch being nearly parallel; that is to say, the palate is hypsiloid — one of the two characteristic sinian forms. Boule also notes the absence of the fossa canina. The nose, separated from the prominent glabella by a pronounced depression, is relatively short and broad. The lower jaw is remarkable for its size, for the antero-posterior extent of the condyles, the shallowness of the incisura mandibulæ, and the absence of chin.

The man of La Chapelle-aux-Saints is welcomed into the Mousterian family ranks, already represented by cousins from nearly a score of localities in various parts of Europe. To the abbés who have introduced him, the science of prehistoric archeology owes a special debt of thanks, as it does also to so many other members of the priesthood from the times of MacEnery and Bourgeois down to that of Breuil. As for *Homo Heidelbergensis* he stands in a class, ancestral, to be sure, but by himself. Let us hope that he too may not long lack companionship of his own kind.

YALE UNIVERSITY,
NEW HAVEN, CONN.

ANTHROPOLOGY AT THE BALTIMORE MEETING
WITH PROCEEDINGS OF THE AMERICAN ANTHROPOLOGICAL ASSOCIATION FOR 1908

BY GEORGE GRANT MACCURDY

The joint meeting of Section H of the American Association for the Advancement of Science and the American Folk-Lore Society was held at the Maryland Institute, Baltimore, December 28-31, 1908.

MEETINGS OF THE SECTIONAL COMMITTEE

In the absence of Prof. R. S. Woodworth, vice-president of the Section, Professor Boas, retiring vice-president, acted as chairman of the Sectional Committee. Officers of the Baltimore meeting were nominated as follows: Member of the Council, B. T. B. Hyde; Member of the General Committee, G. G. MacCurdy. Sectional offices were filled by the nomination of Prof. William H. Holmes, Washington, D. C., as vice-president for the ensuing year; Dr George Grant MacCurdy, New Haven, Conn., secretary for five years; and Dr George A. Dorsey, member of the Sectional Committee to serve five years. These candidates were later elected by the Association in general committee.

COUNCIL MEETINGS OF THE AMERICAN ANTHROPOLOGICAL ASSOCIATION

Members of the Council present in addition to President Boas were R. B. Dixon, G. A. Dorsey, F. W. Hodge, B. T. B. Hyde, G. G. MacCurdy, and Charles Peabody.

REPORT OF THE SECRETARY

The secretary, Dr George Grant MacCurdy, reported that there had been no special meeting or Council meeting since the close of the session in Chicago, the proceedings of which had been published in the *American Anthropologist* for January-March, 1908.

There have died during the year: John Walter Hastings, Cam-

bridge, Mass.; Edward P. Valentine, Richmond, Va.; Prof. Otis T. Mason, Washington, D.C.; and Prof. John H. Wright, Cambridge, Mass.

The growth in membership since January 1, 1908, has been the greatest of any year since the foundation of the Association. This growth has been normal, it being the policy of the Association not to recommend any one without first receiving either a personal application or assent. Such members are apt to be permanent, as is shown by the fact that the annual number of resignations is growing smaller and smaller each year. Fifty-six new names are herewith submitted for election, as follows:¹ Academy of Natural Sciences, Philadelphia; Henry M. Ami; Athenæum Library, Minneapolis; E. E. Baird, Beloit College Library; Biblioteca de la Universidad Nacional de La Plata, Argentina; Biblioteca Nacional, Santiago de Chile; Son Altesse le Prince Roland Bonaparte; California Academy of Sciences; George Randolph Cannon; Prof. L. Capitan; Cleveland Public Library; Columbia University Library; William Elsey Connelley; M. Cooper; Cornell University Library; Miss A. H. Day; Henry Herbert Donaldson; Wilberforce Eames; Lieut. George T. Emmons, U.S.N.; Facultad de Filosofia y Letras de la Universidad Nacional de Buenos Aires; Mrs Eva T. Fenyes; Edwin Sidney Hartland; Charles Henry Hawes; Miss Mary Luis Kissell; Samuel A. Lafone Quevedo; Library of the State University of Iowa; Parker Davis Martin; W. L. Marsden, M.D.; John Danskin Mattson; Dr Charles Jenkins Montgomery; Museo de la Plata; Museo Nacional de Buenos Aires; Benjamin Frank Nead, Jr.; New York Public Library; Arthur W. North; Felix F. Outes; Public Library of the District of Columbia; Paul Radin; Morgan Poitiaux Robinson; Dr Rodolfo Cambiaso; Dr Dudley A. Sargent; Herbert F. Schwarz; Alfred Holt Stone; William Addison Stone; Bradshaw H. Swales; Toronto Public Library; Luis Maria Torres; Mrs Edward P. Valentine; F. W. Vollman; Charles William Wiegel; Hon. E. T. Williams.

Of this list forty-one are of individuals and fifteen of institutions. It will also be noted that thirteen of the new members represent foreign countries, most of them coming from South America, which

¹ Full addresses are given in the list of members printed in this issue.

may be expected to furnish us with other new names during the next few years in view of the fact that the International Congress of Americanists will meet at Buenos Aires and Mexico City in 1910. Our Association is thus becoming more and more an international organization. Eleven of our members were present at the International Congress of Americanists in Vienna, September 9-14, taking an active part in its proceedings, as follows: Ambrosetti, Boas, Miss Breton, Capitan, Hartman, Lehmann-Nitsche, MacCurdy, Morice, Peabody, Saville, and von den Steinen.

Attention is once more called to the duty of each one to help in obtaining new members, the burden of which is being borne almost exclusively by two or three overworked officers. A certain increase is required each year to meet the loss by death and resignation. The total membership is now a little short of three hundred and fifty, representing thirty-five states and territories, including the Philippine islands and Hawaii, and thirteen foreign countries. Let us all work together and try to make it one thousand in the next ten years.

We have at present no members from Delaware, West Virginia, Kentucky, Tennessee, North Carolina, South Carolina, Mississippi, Arkansas, Oregon, Idaho, Montana, Wyoming, North Dakota, South Dakota, Nevada, or New Mexico.

REPORT OF THE TREASURER

The Treasurer's report, which was received and referred to an auditing committee¹ appointed by President Boas, consisting of M. H. Saville and H. I. Smith, is as follows:

Receipts

Balance from 1907.....	\$	487.38
From Anthropological Society of Washington for <i>American Anthropologist</i> ,		
Vol. IX, No. 4	\$85.19	
Vol. X, No. 1.....	76.97	
Vol. X, No. 2.....	77.79	
Back numbers	2.12	242.07
Carried forward		729.45

¹ The committee has not yet reported.

Brought forward.....	\$	729.45
From American Ethnological Society for <i>American Anthropologist</i> ,		
Vol. IX, No. 4.....	\$61.71	
Vol. X, No. 1.....	61.72	
Vol. X, No. 2.....	62.72	
Extra copy.....	.83	186.98
Annual dues.....		1,142.30
Annual subscriptions to <i>American Anthropologist</i>		545.94
Sale of back numbers and extra copies of <i>American Anthropologist</i>		93.51
Sale of <i>Memoirs</i>		94.13
Publication fund.....		405.00
Authors' reprints (at cost).....		35.21
Advertising in <i>American Anthropologist</i>		11.25
Received from Members for illustrations in <i>American Anthropologist</i>		36.01
Affiliated Societies for share of printing, etc., in connection with annual meeting.....		49.84
		<u>\$3,329.62</u>

Expenditures

For printing, binding and mailing <i>American Anthropologist</i> ,		
Vol. IX, No. 4.....	\$284.73	
Vol. X, No. 1.....	378.44	
Vol. X, No. 2.....	331.77	\$994.94
Memoirs.....		653.31
Reprints.....		201.54
Insurance on back volumes.....		25.00
Illustrations for <i>American Anthropologist</i>		432.10
Illustrations for <i>Memoirs</i>		47.30
Editorial expenses.....		76.25
Treasurer's expenses.....		145.24
Secretary's expenses.....		54.78
Printing, etc., for Affiliated Societies (\$83.12 contracted in 1907).....		49.84
Subscriptions returned.....		10.00
Buying back volumes.....		5.00
Expenses in connection with periodical literature.....		10.00
Balance.....		<u>\$2,705.30</u>
		\$624.32

Bills for Vol. X, Nos. 3 and 4, of *American Anthropologist* and Vol. II, part 3, of the *Memoirs*, not having been presented as yet, the above balance will probably be consumed and a deficit appear when all bills are submitted.

The Editor, Mr F. W. Hodge, did not submit a written report. The reports of standing committees will appear as papers read at the meeting.

On motion, the President appointed F. W. Hodge, R. B. Dixon, and G. G. MacCurdy as a committee on amendments to the constitution with a view to increasing the number of members composing the Council, providing for an executive committee, and for greater facility in the election of members.

It was moved and carried that the Council be empowered to determine the place of the next annual meeting. It was voted that a subscription blank be prepared asking members to subscribe to a prospective Index to the *American Anthropologist*, both old and new series, and that the Committee on Publication be authorized to proceed with the preparation of the Index as far as the available funds may warrant.

The chair appointed Messrs Dixon, Dorsey, and MacCurdy as a Committee on Nominations. The report of this committee was subsequently accepted, the election resulting as follows:

President: Prof. William H. Holmes, Washington.

Vice-president, 1909: Mr Clarence B. Moore, Philadelphia.

Vice-president, 1910: Dr George A. Dorsey, Chicago.

Vice-president, 1911: Miss Alice C. Fletcher, Washington.

Vice-president, 1912: Prof. R. B. Dixon, Cambridge.

Secretary: Dr George Grant MacCurdy, New Haven.

Treasurer: Mr B. T. B. Hyde, New York.

Editor: Mr F. W. Hodge, Washington.

Council: W. J. McGee, F. W. Putnam, F. Boas, C. B. Moore, G. A. Dorsey, Alice C. Fletcher, R. B. Dixon, G. G. MacCurdy, B. T. B. Hyde, F. W. Hodge (*ex-officio*); F. Baker, L. Farrand, B. Laufer, J. D. McGuire, J. Mooney, C. Peabody (1909); C. P. Bowditch, A. F. Chamberlain, S. Culin, R. B. Dixon, J. Walter Fewkes, G. B. Gordon (1910); E. L. Hewett, J. N. B. Hewitt, W. Hough, A. Hrdlička, A. L. Kroeber, A. M. Tozzer (1911); M. H. Saville, H. I. Smith, G. H. Pepper, W. C. Farabee, J. R. Swanton, G. G. Heye (1912).

To represent the Association in the Council of the American Association for the Advancement of Science: Franz Boas and E. L. Hewett.

The incoming president, Professor Holmes, has appointed committees as follows:

Committee on Program: G. G. MacCurdy (chairman), F. Boas, F. W. Hodge, A. L. Kroeber, C. Hart Merriam.

Committee on Finance: B. Talbot B. Hyde, Stanley McCormick, G.

G. MacCurdy, W. H. Furness, 3d, George G. Heye, Clarence B. Moore.

Committee on Publication: The names of the members of this committee appear on the third page of the cover of this number of the *American Anthropologist*.

Committee on Policy: W. H. Holmes (chairman), W. J. McGee, F. W. Putnam, C. P. Bowditch, G. A. Dorsey, F. W. Hodge, A. L. Kroeber, C. Peabody, Franz Boas, George Bird Grinnell.

Committee on American Archeological Nomenclature: C. Peabody (chairman), W. K. Moorehead, E. L. Hewett, J. D. McGuire, F. W. Kelsey.

Committee on the Concordance of American Mythologies: F. Boas (chairman), J. R. Swanton, A. L. Kroeber.

Committee on Nomenclature of Indian Linguistic Families North of Mexico: F. W. Hodge (chairman), W. H. Holmes, F. Boas, A. L. Kroeber, R. B. Dixon, G. A. Dorsey, J. Mooney.

Committee on the Preservation of American Antiquities: W. H. Holmes (chairman), E. L. Hewett (secretary), G. A. Dorsey, Alice C. Fletcher, G. G. MacCurdy, G. B. Gordon, A. L. Kroeber, M. H. Saville, F. W. Putnam, S. Culin, J. Walter Fewkes.

ADDRESSES AND PAPERS

The address of the retiring Vice-president, Professor Franz Boas, on "Race Problems in America" will be printed in *Popular Science Monthly*. "The Mythology of the Central and Eastern Algonkins" was the subject of Prof. Roland B. Dixon's presidential address before the American Folk-Lore Society. It will be printed in the first number of the *Journal of American Folk-Lore* for the current year.

The reports of several standing committees were of such general interest as to be in the nature of papers. That of the Committee on Archeological Nomenclature, Dr Charles Peabody, chairman, was ordered to be printed in full as a report of progress. (See page 114.)

The Committee was continued and asked to collate the terminology already in use.

The report of the Committee on Concordance of American Mythologies was accepted as read by Professor Boas, chairman, and the committee was continued.

Mr F. W. Hodge's report as chairman of the Committee on Linguistic Families North of Mexico was accepted and the committee continued. In this connection it was moved and carried that whenever an author uses a term not acceptable to the committee the editor be instructed to add in parenthesis the term approved by the committee. Mr Hodge also reported for the Committee on Book Reviews of which he is chairman. The report was accepted, and the committee discharged at its own request, with a vote of thanks for its labors on the part of the Association.

Dr George A. Dorsey, recently returned from a year's stay in the Far East, gave an interesting account of his journey through New Guinea. The Papuans of New Guinea are very different physically from the natives of New Britain. The various forms of head-dress were described; also the splendid character of the pile-dwellings that are so striking a feature of the coast region. Mention was made of the wooden drums five to fifteen feet in length, of great adzes of stone and shell, and of wooden bowls carved to represent animals, canoes, etc. All the natives are expert canoe men. The usual form of canoe is the outrigger carrying sails and often of great size.

The Big River (Kaiserin Auguste) was ascended for a distance of 110 miles, where it was still as large as and deeper than the Mississippi at St Louis. The country is flat and covered by extensive forests. Twenty villages (sago gatherers) were passed. The sago palm is cut down near the ground and the top lopped off; the trunk is split and the mass of sago broken up by means of a cylindrical stone set as an adz. The houses differ from those along the coast. They are built on piles, to be sure; but, instead of being squarish, are long, narrow, and absolutely open at each end. This is to provide ventilation, as the natives sleep in long, mosquito-proof, tightly woven, rattan bags. There is usually an altar on which are human images. Skulls (of relatives) are placed on the floor in front of these altars. The canoes are carved at one end to represent the alligator.

"Geological Facts bearing on the Place of the Origin of the Human Race" was the title of a paper by Prof. George Frederick Wright. It is becoming more and more clear, according to Professor Wright, that the glacial period was ushered in by a general

land elevation over all the northern hemisphere (if not the whole world). All the high mountains of the world bear Tertiary strata at elevations of several thousand feet. The effect of such elevation would be to enlarge the continental areas around all their borders and to form land connection between northwestern America and northeastern Asia and possibly between Greenland and northern Europe. It would also connect North America with South America through the West Indies, and Europe with Africa across the Straits of Gibraltar and the shallow belt extending south from Sicily. That there was such a land connection appears from the fact that at the close of the Tertiary period, as the glacial epoch was approaching, there was a remarkable intermingling of the fauna of these connected regions. The elephant and rhinoceros came over from Africa and wandered as far north as Yorkshire, England. The megalonyx and some other South American species wandered into North America as far as Ohio, while the mammoth spread from central Asia across Siberia to northwestern America and wandered to the Atlantic coast and borders of Mexico. Cumulative evidence seems to point to central Asia as the center from which man was dispersed in company with the mammoth over the entire Northern Hemisphere. Central Asia seems to have been the earliest center of civilization. Here in the ancient valley of the Oxus, according to Pumpelly, there are ruins of cities which reach back to 8000 B.C., and here beyond reasonable doubt the Aryan family of languages had its origin. A study of the physical changes which passed over this region contemporaneously with those in Northern America and Europe during the glacial period, and the now undoubted connection of man with the glacial period, rendered very plausible the hypothesis that the changes connected with that period were a contributory cause of the dispersion of mankind from this Asiatic center. Recent investigations show that, during the glacial period, central Asia offered a specially favorable area for the development of man together with both the vegetable and animal species upon which he is dependent for means of sustenance. The whole region is dependent upon irrigation, which is secured by the abundant flow of water proceeding from the melting ice and snow on the lofty mountain heights. At the present time this irrigated belt is a very large one

but during the glacial period when the ice came several thousand feet lower down on the mountains (but never to the plains), the irrigated areas were immensely larger, furnishing sustenance for an indefinitely larger population. But at this time all northern Europe and northern North America were enveloped in glacial ice. But as the glacial period declined, the supply of water from the mountains of central Asia diminished and the oases contracted so as greatly to curtail the field of human occupancy. Contemporaneously with this curtailment in central Asia the fertile plains of Europe and North America were opened to occupation by the melting of the ice, so that streams of emigration entered both Europe and North America from this common center. In America the Aryan speaking races are just entering upon this glacial inheritance. It certainly means a great deal in the settlement of the question of the origin of the human race that we have so many classes of facts pointing to this conclusion, or at least coinciding with this theory.

Professor Wright also presented for inspection three implements recently found, supposed to be of glacial age. The first was one already described by Miss Luella A. Owen in the sixth volume of *Records of the Past*. The evidence is perfectly satisfactory, stated Professor Wright, that it was found in undisturbed loess at St Joseph, Mo., 30 feet or more below the surface. The second was found in the bottom of a pit where the loess was being excavated two or three miles above St Joseph, and in all probability came from the loess. Both these implements are of paleolithic type, and the patina upon them and the oxidation of the surface indicate great age. The third implement, which is of a familiar paleolithic type, was found in a gravel pit excavated in a "kame terrace" on the border of the river Styx in Wadsworth, Medina co., Ohio. As it was found on the floor of the pit, the evidence is not definite with regard to its position in the undisturbed gravel, but everything about it is consistent with glacial antiquity and it is different in almost every respect from the great number of implements found on the surface in that locality. Its character is confirmed by the fact that in a farmer's collection near by another implement almost precisely like it was found, being reported to have been from this same gravel deposit a short distance away.

"Characteristic Traits of the Yana Language of California" was the subject of Dr Edward Sapir's paper. The Yana language of northern California represents a distinct linguistic stock, and was spoken in three dialects (North, Central, and South), of which one (South) is now extinct. Phonetically Yana is characterized by the presence of intermediate, aspirated, surd, and "fortis" stops, by a weakly trilled *r*, by voiceless *l*, *m*, *n*, and *r*, and by doubled (long) *l*, *m*, and *n*. Phonetic processes of morphological significance are vocalic changes in the verb stem in the formation, e. g., of causatives and passives, and the change of *l* to *n* in nouns to form the diminutive. There are two main forms of speech in Yana, one used by men speaking to men, the other in all other cases; the second form is distinguished from the first partly by phonetic, partly by formal modifications. Morphologically Yana is characterized by having practically only two parts of speech—noun and verb (adjectives, numerals, interrogative pronouns and adverbs, and conjunctive elements are all morphologically verbs). The pronominal elements (possessive and subject) are, in the main, identical in both noun and verb, a grammatical differentiation of these parts of speech being brought about largely by syntactic means. The structure of the verb is rather complicated. Besides pronominal suffixes and tense and mood suffixes, all of which are more strictly formal in character, we have stems of first position, which may, in many cases, be directly employed with the requisite formal suffixes, stems of second or other position, which cannot be used without a preceding stem of first position, and an immense number of derivational suffixes (local, temporal, relational, quasi-modal, etc.). The total number of non-formal elements that follow stems of first position easily exceeds 300. Prefixes do not occur in Yana.

Mrs Zelia Nuttall spoke of "A Curious Survival in Mexico of the Use of *Murex purpura* for Dyeing Purposes," producing, by way of demonstration, two woven fabrics colored purple. The industry is known to exist in Nicoya, Costa Rica. Hartman found it also on the peninsula of Guanacaste, Costa Rica.

Drs Charles Peabody and George Grant MacCurdy made a "Presentation of Eoliths from Boncelles," near Liège, Belgium, they having visited that station together last summer. Boncelles

lies in the Ardennes, at a height of 265 meters above the sea. Here M. de Munck discovered eoliths in a flinty layer surmounted by a thick deposit of upper Oligocene sands. The age of the latter is determined by numerous fossil shells, including *Cytherea beyrichi*, *Pectunculus obovatus*, and *Cardium*. According to Rutot the deposit in which the eoliths occur is of middle Oligocene age. The Boncelles eoliths are therefore older than those of Cantal.

Another paper dealing with European archeology, "Some Recent Paleolithic Discoveries," was presented by Dr George Grant MacCurdy. This paper appeared in the October-December issue of the *American Anthropologist*.

The papers by Dr C. Hart Merriam: "Mythology of the Mewan Tribes"; "Additional Notes on the Yumme or Mourning Ceremony"; "The Creation Myth of the Pá-we-nan"; and "Battle of the First People with Dakko, the Sun God—a Hamfo Myth," will appear in the *Journal of American Folk-Lore*.

Mr Stansbury Hagar discussed "Izamal and its Celestial Plan." At Izamal in the north-central part of Yucatan is found a group of ruins which marks the site of an ancient theogonic center of the Maya. Landa, writing in the latter half of the sixteenth century, gives the earliest reference to them. He mentions eleven or twelve edifices and describes one. Lizana, writing sixty years later, found only five edifices, but he gives us a detailed description of their comparative location and of the traditions associated with them, which reveals the basic plan of Izamal. This plan is confirmed by details supplied by the modern travelers, Stephens, Norman, Charnay, Le Plongeon, and Holmes. Lizana says that the buildings were temples; they stood upon the summit of pyramidal mounds typical of Mexico and Central America, as well as of Yucatan. Toward the north was the highest temple, called Kinich Kakmo, Sun-Eye; and Ara, or Parrot of Fire, because the sun was supposed to descend upon it at noon and to consume the offerings upon its altar, as the fiery-plumed ara descends from the sky. These symbols were associated with the time of the June solstice. The Mayan ritual refers to the descent of an "angel" upon the altar at this time and to the new fire festival. A similar Mexican tradition mentions the descent of a bird in a luminous constellation. The symbolism

therefore seems to refer to the annual descent of the sun from the sign Cancer, the northernmost point in the solar journey, at the solstitial moon of the year.

Toward the west was the mound and temple dedicated to Itzamna as lord of the dead. It contained the image of a hand, because on this spot Itzamna healed those who were ill and restored the dead to life by laying his hand upon them, whence it bore the name Cab-ul, the Working Hand. In this aspect Itzamna may be identified with the death god A of the codices, who rules the Mayan uinal Xul, or End, in October–November, and represents Scorpio, the death sign.

Toward the southwest was the temple of Hunpictok, the Warrior, or the Commander of Eight Thousand Lances. This was an arsenal and the headquarters of the army. Beside one of the two colossal heads upon the facade of this pyramid may still be seen the double spiral xonecuilli symbol, which connoted the sign and constellation Sagittarius for the Mexicans. It also referred to the gods of war, and to Orion, the Warrior, who represented Sagittarius as a catasterism.

At the south stood the temple of Itzamna in the aspect of the Cosmic Spirit, represented in the codices by the god D and the sign Capricornus.

Finally Lizana describes the temple called Papp Hol Chac, House of Heads and Lightnings. He does not locate it, but Charnay writes of it as facing the Kinich Kakmo pyramid from the south. In it dwelt the priests who administered justice and foretold the future. Apparently the reference is to the *tlahouani* or diviner of the Mexicans, Maya *chilan*, who imparts the wisdom supposed to be obtained from the spirits of the dead, and who is associated with the constellation *Tzayaotlatohua*, our Libra–Scorpio. In this instance the former sign seems to be represented. Lizana also mentioned four roads which extended from Izamal toward the cardinal points.

Each of the five edifices described by Lizana was associated with a zodiacal sign. Their relative positions correspond correctly to those of the signs they represent. The original plan of Izamal consisted of twelve temples, each representing a zodiacal sign in its

proper relative position in the zodiacal circle. These structures were grouped around an undefined central space from which the roads divided the country into four provinces corresponding to the celestial and cosmical quartering of the solar path by the solstices and equinoxes. The basis of this plan was therefore the imitation upon earth of the supposed celestial plan. It is identical with the plan of Cuzco, the Inca capital,¹ a plan most appropriate to a sacred city of priests who watch the stars. The Izamal symbols repeat throughout those of Peru, indicating intercommunication, direct or indirect, between the Maya and the Peruvians at some time.

In "Social Institutions of the Tinglayan Igorrotes," Dr Daniel Folkmar gave some of the results of his work for the Ethnological Survey of the Philippine Islands while Lieutenant-Governor of Bontoc.

The following papers were read by title :

Dr Clark Wissler: Measurements of Mixed and Full-blood Dakota Children.

Dr Aleš Hrdlička: Height in the American Indians.

Dr Walter Hough: Memorial Address for Otis T. Mason.

Prof Henry Montgomery: Archeological Explorations in Manitoba.

Mr William A. Bryan: Some Inventions of the Ancient Hawaiians.

Dr E. L. Hewett (secretary): Committee Report on the Preservation of American Antiquities.

Miss Louise Rand Bascom: Ballads and Songs of Western North Carolina.

Dr John P. Cross: Folk-lore from the Southern States.

Mr Phillips Barry: Folk-music in America.

Mr F. B. Washington: Notes on the Northern Wintun Indians.

Mr Leo Frachtenberg: Traditions of the Coos Indians of Oregon.

Dr Clark Wissler: Observations on Esoteric Narratives on the Source of Myths.

Dr Frank G. Speck: Sketch of the Yuchi Language.

Mr George Will: Songs of the Western Cowboys.

Miss Mary W. F. Spears: The Importance of Recording Negro Lore, Dialects, and Melodies.

¹ See author's paper on Cuzco, the Celestial City, in *Proceedings Internat. Cong. of Americanists*, New York, 1902.

REPORT OF THE COMMITTEE ON ARCHEOLOGICAL NOMENCLATURE

The following report has been prepared by Prof. John H. Wright, Mr J. D. McGuire, Mr F. W. Hodge, Mr W. K. Moorehead, and Dr C. Peabody, chairman. The recent illness and death of Professor Wright deprived the Committee of his advice and suggestion during the final drafting; with this exception the report is unanimous.

To the President and Members of the American Anthropological Association:

The Committee on Nomenclature of specimens has the honor of submitting the following report. It covers only certain divisions of objects in clay and of objects in stone; the departments referred to seem to the Committee to be peculiarly suited to a rigid examination resulting in definition, classification, and meaning.

In all, the object of the Committee has been to reduce everything to its lowest terms, to use English words, if possible, and words that shall be perfectly clear in denotation to scholars at home and abroad, and to adhere as closely as may be to classifications already made standard.

As has been well said, the difficulty in classification and nomenclature comes from our lack of complete and detailed knowledge.

The classifications here offered and the definitions here proposed in some detail are based so far as is possible on form alone. It is of course taken as an axiom that a classification based on form assumes no theory of the development, interrelation, or conventionalization of forms or types in any manner whatsoever; it has been the particular aim of the Committee to avoid or to get rid of those classes and names that are based on uses assumed but not universally proved for certain specimens.

Should the attempt meet with the favor of the members of the Association, it should be possible at a future date to apply the same principles to a detailed examination of other stone specimens and to specimens in shell, basketry, and textiles, so far as has not been already done.

ARTICLES IN CLAY

Simple vessels in clay may be presumed to cover all forms except eccentric or conventionalized (i. e., animal-shaped) forms on the one hand, and discs and pipes on the other.

It is suggested by the Committee that members of the American Anthropological Association having occasion to describe clay vessels, may classify them: first, as to material, as consisting of clay, sand, shell, and their combinations, and as possessing certain general ground-color;

second, as to manufacture, as sun-dried or fired, as coiled or modeled — with the variations and steps of each process ; third, as to form ; fourth, as to decoration, as plain, stamped, incised, or painted. With regard to form, the Committee begs to offer the following definitions and suggestions in classifications.

[*Note.*—In all cases measurements are considered as referring to an upward direction.]

A simple vessel must consist of a body, and may have a rim, neck, foot, handle, or any combination.

1. *Body* : A formation capable of holding within itself a liquid or a solid substance.

2. *Rim* : (*A*) A part of the vessel forming the termination of the body. (*B*) A part of the vessel recognizable by a change in the thickness of the material in the terminal sections.

3. *Neck* : A part of the vessel recognizable by a more or less sudden decrease in the rate of increase or decrease of the diameter.

4. *Foot* : An attachment to the vessel which serves as support to the body when upright.

5. *Handle* : A part of the vessel consisting of some outside attachment, not serving as support.

Body : It is suggested that in comparing the forms or cross-sections of vessels particular attention be paid to the proportion of the diameter to the height, to the rate of change of this proportion, to the place of change of direction in this proportion, and to refer to the following definitions of the two dimensions :

Height : the distance from the base to a horizontal plane passing through the most distant part of the rim.

Diameter : the distance from any one point on the sides to any opposite point on the sides, measured on a plane at right angles to the height.

Base : the point of contact or a plane of contact of the body with a horizontal surface.

Types. Body : These are so varied, depending on relative height and diameter of the cross-section, that an analysis is too cumbersome to be of service to general reference.

- Neck* :
1. Expanding.
 2. Cylindrical.
 3. Contracting.
 4. Combinations.

Lip : A part of the neck or body recognizable by a suddenly increasing diameter of neck or body, that continues increasing to the rim.

Foot: 1. Continuous.

- (A) Expanding.
- (B) Cylindrical.
- (C) Contracting.
- (D) Combinations.

Feet: 2. Not continuous.

Differentiated by

- (A) Number.
- (B) Angle with the horizontal.
 - (a) Expanding upward.
 - (b) Perpendicular.
 - (c) Contracting upward.

Handles. Types.

Differentiated by

1. Number.
2. Position on the vessel.
 - (A) Body.
 - (B) Neck.
 - (C) Foot.
 - (D) Combinations.
3. Form.
 - (A) Continuous with body or neck.
 - (B) Not continuous with body or neck.
 - (a) With constant direction.
 - (b) With varying direction.
 - (c) With reëntry upon vessel.
 - (A') Round.
 - (B') Flat.
 - (C') Coiled.

ARTICLES IN STONE

CHIPPED STONE

1. *Knives and Projectile Points.*

Larger = 5 cm. (2 inches) or more in length.

Smaller = less than 5 cm. (2 inches) in length.

Types.

1. Without stem.

- (A) Without secondary chipping (= flakes).
- (B) With secondary chipping.
 - (a) Pointed.

- (a') At one end.
 - Base concave.
 - Base straight.
 - Base convex.
 - Sides convex.
 - One side convex, one side straight.
- (b') At both ends.
- (b) Ends convex.
- (c) More or less circular.
- 2. With stem.
 - (A) Stem expanding from base — with or without barbing.
 - (a) Base concave.
 - (b) Base straight.
 - (c) Base convex.
 - (B) Stem with sides parallel — with or without barbing.
 - (a) Base concave.
 - (b) Base straight.
 - (c) Base convex.
 - (C) Stem contracting from base — with or without barbing.
 - (a) Base concave.
 - (b) Base straight.
 - (c) Base convex.

Note 1. — The proportion of the length of the base to its breadth should be observed.

Note 2. — The notches in barbed specimens may be vertical, horizontal, or with varying diameter.

Note 3. — The angles formed by the faces (i. e., "bevel") should be observed.

II. *Scrapers.*

Types.

1. With one or more scraping edges.
2. Without or with notch (including circular).

III. *Perforators.*

Types differentiated by

1. Cross-section.
 - (A) Round.
 - (B) Quadrangular or irregular.
2. Stem.
 - (A) Without stem.
 - (B) With stem.

(a) Stem expanding gradually.

(b) Stem expanding suddenly.

IV. *Hammerstones.*

Types.

1. Spheroidal.

2. Discoidal. { (a) "Pitted,"
(b) Not "pitted,"

3. Elongated. { (a) Grooved.
(b) Not grooved.

Note 1. — Practical or ornamental serration may be applied to many forms.

Note 2. — Combinations of the types may appear in one specimen and any type may be infinitely varied by individual caprice.

GROUND STONE

I. *Problematical forms.*

1. Laminæ (i. e., flat "spuds," "gorgets," and pendants).

Types.

(A) Spade-shaped.

(B) Ovate.

(a) Sides concave (not common).

(b) Sides straight.

(c) Sides convex.

(C) Leaf-shaped.

(D) Spear-shaped.

(E) Rectangular.

(a) Sides concave.

(b) Sides straight.

(c) Sides convex.

(F) Shield-shaped.

(G) Pendants.

(a) Celt-shaped.

(b) Rectangular.

(c) Oval or circular.

2. Resemblances to known forms.

(A) Animal-shaped stones.

(B) Boat-shaped stones.

(C) Bar-shaped stones.

(a) Longer, resembling true "bars."

(b) Shorter, "ridged" or "expanded gorgets."

(D) Spool-shaped stones.

(E) Pick-shaped stones.

(*F*) Plummets-shaped stones.

(*G*) Geometrical forms.

(*a*) Spheres.

(*b*) Hemispheres.

(*c*) Crescents.

(*d*) Cones.

3. Perforated stones with wings.

(*A*) Wings with constant rate of change of width.

(*a*) Wings expanding from perforation.

(*b*) Wings with sides parallel.

(*c*) Wings contracting from perforation.

(*B*) Wings with varying rate of change of width.

II. Tubes and tube-shaped stones.

III. Beads.

IV. Pitted stones other than hammerstones.

The Committee finally takes pleasure in thanking the following members for assistance rendered :

Prof. N. H. Winchell, University of Minnesota, Minneapolis ; Prof. Henry Montgomery, University of Toronto ; Prof. William N. Bates, University of Pennsylvania, Philadelphia ; Dr H. Kinner, St Louis ; Dr George Grant MacCurdy, Yale University ; Mr M. Raymond Harrington, New York ; Mrs Zelia Nuttall, Coyoacán, D.F., Mexico ; Mr C. C. Willoughby, Harvard University ; Dr Walter Hough, National Museum ; Dr Nicolas León, Mexico ; Mr F. S. Dellenbaugh, New York ; Prof. F. W. Putnam, Harvard University ; Dr John M. Wulff, St Louis ; Mr Harlan I. Smith, American Museum of Natural History, New York ; Rev. J. D. Marmor, New York ; Mr Christopher Wren, Plymouth, Penn. ; Dr A. W. Butler, Indianapolis ; Dr H. W. Shimer, Boston ; Prof. W. H. Holmes, Washington ; Mr Richard Herrmann, Dubuque, Iowa ; Dr H. F. ten Kate, Tokyo ; Dr J. B. Ambrosetti, Buenos Aires.

BOOK REVIEWS

The American Indian as a Product of Environment, with Special Reference to the Pueblos. By A. J. FYNX. Boston: Little, Brown and Company, 1907. 8°, 275 pp., ill.

This work is the outgrowth of a degree thesis originally prepared for the University of Colorado, and deals with the old problem of the relation of man to environment, taking most of its illustrations from the sedentary tribes of the Southwest, of which the author has personal knowledge. It notices in succession flora, fauna, and human inhabitants, homes, food and clothing, government, education, industries, religion, and ceremonies.

The treatment is good and shows close study of geographic and climatic cause and effect, but the author is frequently in error in his specific statements, chiefly from following such general, and therefore unreliable, theorists as Morgan and Brinton. For instance, the clan system, instead of being universal as Morgan taught, is now shown by Swanton to have been of extremely limited range. The chief usefulness of the dog was not as a hunter, but as a sentry at the home camp. "Superstition" seems hardly the word in an ethnologic treatise, and it is extremely doubtful if Indian hospitality had its reason in the fear of possibly offending a god in disguise. The statement that among the Pueblos "several rabbits were killed in the course of a year" hardly does justice to the Hopi and Zuni rabbit drives. The author's chapter on the effect of civilization upon the native race covers the ground very effectively.

JAMES MOONEY.

True Indian Stories, with Glossary of Indiana Indian Names. By J. P. DUNN. Indianapolis: Sentinel Printing Company, 1908. 16°, 320 pp., ill.

The author of this little volume of studies from the pioneer days of Indiana is the secretary of the State Historical Society, a trained writer and investigator, and our most competent authority on all that relates to the Indian tribes of the Ohio valley. The sketches were originally written for newspaper publication and have been remodeled for more permanent form.

Of the dozen stories presented nearly every one is in some measure known to students of the early history of the Middle West, but never before have all the facts been so well hunted down, brought into connected sequence, and told in a way to convey their full meaning of tragedy

and human interest. Of special interest are the stories of the death of the witches, by command of the Shawnee Prophet; the account of William Wells, the Kentucky captive and interpreter, killed while defending the prisoners at the Fort Dearborn massacre; the "Tragedy of the Falls," the murder of a party of friendly Indians and the trial (and later execution) of the murderers, where "every juryman wore moccasins and carried a hunting knife;" the narrative of Frances Slocum, the lost captive of Wyoming; and "The Trail of Death," telling of the forced removal of the Potawatomi in 1838.

An index glossary of 67 pages gives the correct Indian form and etymology of nearly all the local names in the state, of Indian origin or connection. The numerous illustrations are nearly all of special historical value. The volume might well be used as a history reading book in the schools of the Ohio Valley region.

JAMES MOONEY.

The Application of Statistical Methods to the Problems of Psychophysics. By F. M. URBAN, Ph.D., University of Pennsylvania. Philadelphia: The Psychological Clinic Press, 1908. 8°, 221 pp.

This book is written for the modern psychologist, treating quite fully one of his very important problems. In the same way that statistical methods and the application of the probability concept have furnished a ray of hope to the anthropologist when dealing with the intricate problems confronting him, they have appealed to the psychologist. It is not our purpose to give a digest or even comment on the present work in its entirety, because it is not primarily important to anthropologists. On the other hand, the intricate methods of statistical procedure are for some reason so difficult of approach and their understanding depends so much on the minute details of presentation that any new demonstration of their applicability and significance will be welcome to anthropologists, even though the subject matter be entirely psychological.

Dr Urban states rather clearly that the probability and frequency concepts must underlie every procedure with phenomena in which the frequency of a given observation result is a part of the data. Of special interest to the psychologists is Dr Urban's claim that judgments of relativity when expressed in terms of quantity are also susceptible to treatment by the same concept, if indeed they be explicable by any other concept whatsoever. One of the first and in some respects the only exact foundation to psychophysics was conceived in Weber's law and the work of Fechner with lifted weights by which efforts were made to find a unit of experience that was equivalent to a unit of quantity. Taking this as a

starting point, the author repeated the experiments to secure a series of observations which in turn were subjected to keen analysis from the standpoint of statistical methods. While in a certain sense the search of the early investigators for a unit of experience was successful, it remained for Dr Urban to point out clearly that the assumption of such a unit as an act of judgment was susceptible to direct treatment by the method of errors. Now, the whole basis of the theory of error probability may be said to be psychological, the correction and approximation of observations in engineering, astronomy, etc., being a rectification of the judgments made by the observers. Since the author has treated very clearly some of the underlying concepts of the statistical method, his publication may be recommended to those interested in the application of these methods.

In his monograph the author presents three subjects: the results of experiments with lifted weights in which judgment was made as to relative values, some ways of applying statistical methods to the results of such observations, and a metaphysical discussion of psychological events as opposed to objective facts. By an ingenious calculation the author determines what may be called psychometric functions, pertaining to the judgments observed by him. As to how far his interpretation as to the relation between mental and objective events will prove satisfactory is a matter which cannot now be determined. Yet the point that "there is no difference between our treatment of psychological observations and the methods by which physical observations are treated, and we may say in general that the mathematical representation of empirical observations is nothing else than an idealization of experience" is, within its meaning, well taken. Unfortunately many students fail to perceive this truth with respect to the more statistical phase of anthropological work.

CLARK WISSLER.

Kraniologische Studien an Altägyptern. Mit 14 eingedruckten Abbildungen und 4 Tafeln. Inaugural-Dissertation zur Erlangung der philosophischen Doktorwürde der Hohen philosophischen Fakultät der Universität Zürich, vorgelegt von BRUNO OETTEKING aus Hamburg. Begutachtet von Herrn Professor Dr RUDOLF MARTIN. Braunschweig: Vieweg, 1908. 90 pp.

This study of ancient Egyptian skulls served as the author's thesis for the Ph.D. at the University of Zürich under Professor Martin. It is based on the examination and measurements of 161 mummy-heads collected in 1896 by Professor Martin, chiefly on the necropolis of Thebes, and twenty-one others, of which nineteen came from Sakkara. After

describing the material (pp. 1-11), the author takes up in turn the detailed study of the skulls (pp. 11-55) and the race-question (pp. 55-65). Among the conclusions from the craniological point of view are the following: The ancient Egyptian type is dolichocephalic-mesocephalic, with but a small (6.9 per cent.) brachicephalic element. The prominence of the occipital squama is characteristic. The face is mesoprosopic, the nose mesorrhine, the eye mesoconch. The ancient Egyptians were an orthognathic race. Taking all things into consideration their craniological type was of no extreme form, but Pruner Bey's distinction between the *fine* and the *gross* types (represented to-day in the Fellaheen and the Copts) is confirmed. The question of negroid influence upon the ancient Egyptian skull-form is still open, likewise the question in how far the gross type and the mixed form influenced by the negroid are one and the same. There seems also some evidence that with rise of civilization occurred an increase in the size of the brain (influencing the size and form of the skull), and a corresponding decrease with retrogression in culture.

Concerning questions of race, Dr Oetteking holds: 1. So far as is now known, man appeared in Egypt in the present geological period (alluvium). 2. The Egyptian people is ethnically composite. 3. Its elements are: Bushmen, Negroes, Libyans, and Hamito-Semites. 4. The influence of these races upon the Egyptian skull cannot yet be given exact craniometric expression. 5. The fundamental division into *fine* and *gross* types is demonstrable at all periods of the ethnic development of the Egyptians. 6. The average type of the ancient Egyptian resembles most the Hamito-Semitic.

A good bibliography (pp. 66-69, two columns to the page) is appended.

ALEXANDER F. CHAMBERLAIN.

La Parole Humaine. Études de philologie nouvelle d'après une langue d'Amérique. Par A. BERLOIN. Paris: Montréal: 1908. 221 pp.

This is a curious book. Twenty or more years ago the author came into contact with the Canadian Algonquin (the linguistic material is largely Cree and Algonquin of Cuog, with some Ojibwa), and, interested in their "Algic" speech, as he calls it, using Schoolcraft's invention, he went into the matter deeper and deeper, finding in this savage language "marks of affinity with European tongues, relations of physical and metaphysical order, and besides, curious concordances with the Bible." Pages 20-118 are occupied by an interesting sketch of the phonetics, morphol-

ogy, and grammar of the Algonquin language, and some hazardous views in semantics and etymology are set forth, particularly as to the significance of consonants and vowels. Chapters x-xii (pp. 118-170) are concerned with "linguistic affinities" between the "Algic" and various Aryan tongues (Sanskrit, Greek, Latin, German, English, etc.), which are thought to be beyond the range of mere chance. Such, e. g., are the following:

Algic <i>asin</i>	German <i>stein</i> .
<i>aki</i> (land)	Latin <i>ager</i> .
<i>kin</i> (pointed)	English <i>keen</i> .
<i>ikwe</i> (woman)	Latin <i>uxor</i> .
<i>pim</i> (fat)	Latin <i>opimus</i> .
<i>tip</i> (measure)	Latin <i>tyfus</i> .
<i>wiw</i> (woman)	English <i>wife</i> .

By means of vocal and consonantal interchanges many more of such "concordances" are made out. Their impossibility as linguistic evidence is seen when one glances into the etymology, e. g., of the English word *keen* or the Latin *opimus*. The author's exploitation of the three "fundamental phonemes *a, i, o*" is interesting but quite *outré*. Some of the grammatical "coincidences" are even more so, — it is asked, whether the Latin future *-bo*, imperfect *-bam*, German past participle *ge-*, are not identical with "Algic" *-wi, -ban, ki-*. All this leads the author to the conclusion that the "Algic" is rather the primitive trunk of Indo-European speech than a mere sister-language of the family. After chapters on natural language and the philosophy of language, M. Berloin goes still farther afield, declaring (p. 192) that "from whatever side we set out, we reach Algic, and, why, therefore, is not Algic the natural language of man?" In the last brief chapter (pp. 207-216) he asserts that possessing the characteristics here discussed, "Algic" is really the primitive language of mankind, having escaped the general confusion of Babel, that linguistic cataclysm which submerged the rest. In an out-of-the-way corner of America lives yet "the tongue spoken by our first parent in Eden, when his mind awoke to the knowledge of divine and human things and his mouth sought to utter them at the initiative of the Creator himself." But there is more poetry than truth in these words of an aged enthusiast!

ALEXANDER F. CHAMBERLAIN.

Ortsnamen und Sprachwissenschaft. Ursprache und Begriffsentwicklung.
 Von Dr C. TÄUBER. Mit 1 Titelbild. Zürich: Verlag. Ari. Institut Orell
 Füssli, 1908. 259 pp.

This is another excursion into the primitive speech of man, like the book of Trombetti, *L'unità d'origine del linguaggio* (Bologna, 1905), in which it is sought to prove "the original linguistic unity of Europe, Africa, Asia, Oceania, and even America." Trombetti's work came to the attention of the author only in time for him to note (pp. 203-207) that his own conclusions were largely confirmed. On the basis of Indo-Germanic comparative philology, using Curtius as chief authority, Dr Täuber decides that there are two fundamental laws of language: (1) the "Urwort" is a substantive of the most primitive, concrete signification, (2) these words are monosyllabic. Such "original roots" of language are: *ma* (food, drink), *pa* (food, protection), *na* (fluid), *ta* (wood), *la* (meadow, water), *ka* (cattle). The book is devoted to the task of unmasking these roots wherever they lie hidden in the innumerable place-names of the whole continent of Europe, etc. The chronological order of the appearance of these "Urworte" the author considers to have been *ma*, *pa*, *na*, *ta*, *la*, *ka*, representing, respectively, the ideas of milk-drinking (infant-mother), the father, the feeling of wetness, the wood as dwelling, the feeding-place of cattle and the water-place, the cattle. This argument is equaled only by some of the philological statements elsewhere in the book. The roots *pa* and *par*, e. g., appear in Latin *papa* and *pater*, *pratium*, *palma*, German *breit*, English *full*, etc., besides in many place-names of Romance, Teutonic, and Slavonic origin. According to Dr Täuber the root *tar* occurs in numerous Slavonic and Siberian place-names, and is even to be found in Argentina and Brazil; also in other regions of America, as the following extract shows (p. 201): "In Mexiko hiess das erste der in Anahuac eingewanderten Völker im Munde ihrer Unterwerfer und Nachfolger, der Azteken, *Tolteken*. Sind das eine Art 'Buschmänner'? 'Tolen' oder 'tule' bedeutet nämlich 'Binse'. Es gibt einen Ortsnamen *Tollan* (= 'Binsenort'), und 'Tollan,' jetzt *Tula*, war ebenfalls eine Stadt der Tolteken. *Tulare* heisst ein See in Kalifornien. *Toronto* in Kanada soll ein indianischer Name sein und bedeuten 'Baum im Wasser.'"

In this way the author claims to have "bridged over the yawning gulf between natural science and philology," and "made clear the embryonal development of human language and the human mind" (p. 207). The roots of language everywhere are the same and their evolution from the "Ursprache" can now be traced in all their later exten-

sions and combinations. This can easily be done if one is willing to derive German *Wald*, English *Wales*, Latin *Velletri*, French *Gascogne*, Spanish *Viscaya*, all from one and the same root, or to connect in like manner *Tibet*, *Trieste*, and *Toronto*.

The book is well printed and is provided with a very good index.

ALEXANDER F. CHAMBERLAIN.

Les Indiens Jivaros. Étude géographique, historique et ethnographique. Dr RIVET. Paris: 1908. 114 pp., 25 figs., map.

This monograph, reprinted from *L'Anthropologie* for 1907 and 1908, is a welcome addition to the anthropological literature of South American primitive peoples. The Jivaros, whose language forms a distinct stock, occupy a triangular area in Ecuador, bounded on the west by the eastern Cordillera of the Andes, on the northeast and east by the river Pastaza (from where it leaves the Cordillera to its junction with the Amazon), on the south by the Amazon itself (from the mouth of the Pastaza to that of the Santiago), and the Cordillera de Condor extending west to east between the valleys of the Santiago and Chinchipe. Some of their numerous tribes hardly know the white man at all, an occasional adventurous rubber-hunter or enthusiastic missionary being the only members of our race to enter upon certain parts of the Jivaro domain. There are, however, in this region a few settlements of *Macabeos*, as the whites are termed, such as Canelos, Macas, Gualaquiza, and Zamora, of which the first had in 1890 a population of 800, and the last less than 200, including Indians. The number of the Jivaros has greatly decreased since the coming of the Europeans, but there still exist some 20,000. The most populous tribes are the Aguarunas, Muratos, Antipas, and Huambizas. Physically the Jivaros "are the finest and most robust type" met with by the author in Ecuador. Bamboo tubes in the lobe of the ear, lip-sticks, face and body painting, "crowns," etc., are some of their ornamental devices. Houses, and not villages, are their characteristic places of abode, and the location of these changes about every six years. The furniture is not extensive, and any one who has three sets of clothing is accounted rich in his tribe. Fowls, pigs, and dogs are their only domestic animals, besides parrots and an occasional monkey. The dogs are kept tied day and night to the foot of the beds of the women. Excessive use of tobacco is a vice caught up from the whites. The national weapon is the spear; they use also the *sarbacan*, or blow-pipe, and the throwing-stick. The Jivaro is an early riser, being up at 3 A. M., to recite, as the head of his family, the tribal history; at 6 P. M. he is always home again—in normal

times never being out at night. He works about two hours a day when at home. His knowledge of woodcraft is great. When not fishing and hunting he visits his relations and friends, for which procedure there is a regular primitive etiquette. Polygamy is in vogue and the position of woman is quite low. It is doubtful whether the Jivaro ever practised the custom of the *couvade*, which has been attributed to them by certain writers. No true social groups and not even "the least embryo of government" exist among these Indians. The tribes are nothing more than "the ensemble of allied and often related families ready in case of need to render each other aid and assistance." Trade and commerce are in their infancy, the traffic in salt being perhaps the most important on account of the rarity of this article and the jealousy with which the neighboring peoples exploit the salt deposits in the forests. According to Dr Rivet "a state of war is the normal condition of the Jivaro," but the "courage" of these Indians resembles the cunning of the cat, rather than the valor of the warrior elsewhere. The Jivaro are famous for their *tsantsas*, or mummified human heads, the most esteemed war trophies, to the consideration of which pages 73-90 are devoted. Sometimes heads of animals (Dr Rivet cites the case of a sloth) are treated in a similar manner.

In spite of the general tendency of the missionaries to ascribe poverty of religious ideas or an almost entire absence of them to these Indians, their religious and superstitious acts, like their traditions, about which so little is known, are numerous. The Jivaro have deluge and creation legends, and traditions concerning race-origins. Their highest divinity is *Iguanchi*, which term the missionaries have now appropriated for the devil, designating the God of the Christians by the word *Yusa* (from *Jesus* or *Dios*). It is *Iguanchi* who directs all the important acts in the life of the Jivaro, and the means of entering into communication with him is by drinking an infusion of *natema* (*Banisteria caapi*) on a high and isolated hill. The idea of natural death is not entertained by the Jivaro, all diseases and all deaths being considered the work of an enemy through the medium of a "medicine-man" or sorcerer. These Indians believe in another life, as is shown by their funeral rites, but the other life is nothing more than the continuance of this on earth. Of their festivals the chief ones are (besides the marriage ceremonies) the women's festival, celebrated when the *yuca*, or the banana trees, planted by the newly-married couple, are ripe; the tobacco festival (so-called by reason of the large amount of the decoction consumed), which has for its object the securing of fertility in the fields, the fattening and prolific reproduction of pigs, etc.; and the *tsantsa-tucui*, or festival of the *tsantsas*, a sort of

expiatory ceremony. Of their arts, pottery seems the most noteworthy. Dance, music, and song are not in high honor—the dances of the Jivaros, indeed, lack grace. Their morality is utilitarian, and the Jivaro is neither good nor bad. As to brains and character, “the Jivaro is one of the most intelligent Indians of South America, when alcohol and *natema* have not exercised upon him their disastrous influence.” He has an irresistible passion for freedom and a perfect horror of subjection. His idleness has been exaggerated; it is perhaps rational. As to the chance of civilizing the Jivaros, Dr Rivet takes a pessimistic view, holding that “where the missionaries of the 18th century, more experienced and more zealous, have utterly failed, those of our own day have but little chance of success.” To this interesting sketch of a people “doomed to disappear swiftly with a rapid peopling by the whites of the provinces of the upper Amazon,” Dr Rivet promises to add later a special memoir on the Jivaro language.

ALEXANDER F. CHAMBERLAIN.

A Bibliography of Congo Languages. By FREDERICK STARR. University of Chicago, Department of Anthropology. Bulletin V. Chicago: 1908. 8°, 97 pp., ill.

Professor Starr's *Bibliography* is issued as a foundation, as solid as one man could make it, upon which other students of African linguistics will build as opportunity and persistence offer them the chance to do so. Meanwhile, to those only incidentally interested in this particular field, Professor Starr's pages leave on the mind of one who glances over them, an impression, curiously distinct and most unusual for an ordinary bibliographical contribution, regarding the character of the language with which it deals. The title pages reproduced in facsimile have been selected so as to show not alone the rare, but also the typical, works of different periods. Those of contemporary dates are reinforced by photographs of several of the mission offices in which a large number of these books were printed, and of some of the native workers. Another and novel feature is the series of small portraits, fairly complete, of the authors who contribute three or more titles included in the bibliography.

G. P. W.

SOME NEW PUBLICATIONS

BELLO Y RODRIGUEZ, SILVESTRE. Le fémur et le tibia chez l'homme et les anthropoïdes (variations suivant le sexe, l'âge et la race). Paris: G. Jacques, éditeur, 1909. 8°, 120 pp., 3 pl., 14 figs.

CARTAILHAC, ÉMILE, et BREUIL, HENRI. Peintures et gravures murales des cavernes paléolithiques. La Caverne d'Altamira a Santillane près San-

tander (Espagne). Imprimerie de Monaco: 1906 [1908]. 4°, viii, 287 pp., 37 pls., figs.

DEBENEDETTI, SALV. Excursión arqueológica á las ruinas de Kipón (Valle Calchaquí—Provincia de Salta). Facultad de Filosofía y Letras. Publicaciones de la Sección Antropológica, No. 4. Buenos Aires: 1908. 8°, 55 pp., 35 figs., 1 pl.

DELAURE, JAKOB ANTON. Die Zeugung im Glauben, Sitten und Bräuchen der Völker. Verdeutscht und Ergänzt von Friedrich S. Krauss und Karl Reiskel. Leipzig: Deutsche Verlagaktiengesellschaft, 1909. 4°, 4 ll., 349 pp., 312 figs.

HENRY, VICTOR. La magie dans l'Indie antique. 2^e édition. Paris: Librairie Critique, 1909. 12°, xl, 288 pp.

HERNÁNDEZ, JUAN MARTINEZ. El Chilam Balam de Maní ó Códice Pérez. Edición cuidadosamente revisada con un prologo. Merida de Yucatan: Imprenta del Colegio San José de Artes y Oficios, 1909. 18°, 18 pp.

HODGES, WILLIAM ROMAINE. Carl Wimar. A Biography. Catalogue of pictures and illustrations furnished by Charles Reymershoffer. Galveston, Texas: Published by Charles Reymershoffer, 1908. 8°, 37 pp., plates.

A sketch with a list of the known canvases of an artist celebrated for his Indian pictures.

LOWIE, ROBERT H. The Northern Shoshone. (Anthropological Papers, Amer. Mus. Nat. Hist., N. Y., 1909, II, pt. 2, pp. 163-306, 1 pl., 20 figs.)

MAKETT, R. R. The threshold of religion. London: Methuen & Co. [1909]. 16°, xix, 173 pp.

Chapters on: Pre-animistic religion; From spell to prayer; Is taboo a negative magic?; The conception of *mana*; A sociological view of comparative religion.

OUTES, FÉLIX F. Alfarerías del noroeste Argentino. (De los Anales del Museo de La Plata, Buenos Aires, 1907, 2^a ser., I, 5-49, 8 pls., 32 figs.)

PALMA, RICARDO (hijo). La uta del Perú. Tesis para el bachillerato en medicina. Lima: Imprenta de "El Lucero," 1908. 8°, 104 pp., 7 pls.

FLOSS, HEINRICH, and BARTELS, MAX. Das Weib in der Natur- und Völkerkunde. Anthropologische Studien von Dr. Heinrich Floss und Dr. Max Bartels. Neunte starke vermehrte Auflage. Neu bearbeitet und herausgegeben von Dr. Paul Bartels. Leipzig: Th. Grieben's Verlag (L. Fernau), 1908. 2 vols. 8°, xxiv, 986 pp., pl. 1-v, figs. 1-425; viii, 884 pp., pl. vi-x, fig. 426-700.

TELLO, JULIO C. La antigüedad de la sífilis en el Perú. Universidad Mayor de San Marcos, Facultad de Medicina. Lima: 1909. 8°, 208, iv pp., 15 pls.

UHLENBECH, C. C. Grammatiche onderscheidingen in het Algonkisch, voornamelijk gedemonstreerd aan het Otchipwe-Dialect. (Reprinted from Mededeelingen der Koninklijke Akademie van Wetenschappen, Afdeling

Letterkunde, 4e Reeks, Deel X.) Amsterdam: Johannes Müller, 1909. 8°, 20 pp.

VAN EPPS, PERCY M. Cayadutta. A great pre-Colonial Mohawk village site. (Reprint from 2d Annual Schenectady County Historical Society, Schenectady, N. Y., 1909.) 8°, 9 pp., 2 pls.

VAN GENNEP, ARNOLD. Les rites de passage. Étude systématique des rites. Paris: Librairie Critique, 1909. 12°, viii, 288 pp.

WREN, CHRISTOPHER. Turtle shell rattles and other implements from Indian graves at Athens, Pa. Reprinted from Proceedings and Collections, Wyoming Historical and Geological Society, Wilkes-Barré, 1908. 8°, 18 pp., 5 figs.

WUNDT, WILHELM. Völkerpsychologie. Eine Untersuchung der Entwicklungsgesetze von Sprache, Mythos und Sitte. Zweiter Band, Mythos und Religion. Dritter Teil. Leipzig: Wilhelm Engelmann, 1909. 8°, xii, 792 pp.

FOREIGN NOTES

MAUMBURY RINGS CIRCLE

Mr H. St John Gray contributes to the *London Times* of December 26 a full account of excavations in the Maumbury Rings Circle, of which he was in charge. Of the work, *Nature* for December 31 says: "This has long been regarded as the site of a Roman amphitheater, and this view is corroborated by the fact that one of the most interesting discoveries made was that of a stratum of shell fragments, quartz, flint, land-shells, etc., similar to that used by the Romans in other places to fill up uneven patches, to prevent the slipping of the gladiators, and to absorb the blood of combatants. Fragments of pottery also indicate Roman occupancy, and one portion of the site seems to have been fortified, holes for stakes cut in slabs of Purbeck limestone having been found at the point where the entrance of the arena was situated. It is interesting to find that this place was occupied by the Neolithic people as a flint workshop. Flint flakes, cores, and hammer-stones were found scattered on part of the site, and the picks made of deers' antlers were obviously the implements by which this early race excavated the remarkable pit whence the rough flints were obtained. This pit is at least 30 feet deep, one of the deepest archaeological excavations on record, one of those at Grime's Grave being a few feet deeper. It is much to be desired that a site which seems to have been almost continuously occupied since Neolithic times by various peoples should be fully investigated, and it may be hoped that the appeal for help issued by Mr Gray from Taunton Castle, Somerset, may be with a liberal response."

IMPERIAL BUREAU OF ANTHROPOLOGY FOR THE BRITISH EMPIRE

The present status of the project to establish an Imperial Bureau of Anthropology for the British Empire is ably presented by Dr A. C. Haddon in *Nature* for March 18, as follows:

"For many years past those who have appreciated the practical value of ethnology in the administration of our Empire have realized the necessity of a central organization for the registration and coördination of data collected by Government officials or others, for the giving of advice to those about to reside or travel in India or the colonies, and to serve as a central office where those at home could obtain trustworthy information concern-

ing the various races and peoples that collectively constitute the British Empire. At the Liverpool meeting of the British Association in 1896, Mr C. H. Read, of the British Museum, proposed the foundation of a bureau of this nature. In his presidential address to the anthropological section at the Dover meeting, three years later, he announced that the trustees of the British Museum had undertaken the working of the bureau under his own supervision, if the Treasury would make a small yearly grant. Owing to lack of adequate support very little has been accomplished to render effective Mr Read's laudable endeavor.

"The need for such an establishment has been increasingly felt. Thanks to the zeal of Prof. W. Ridgeway of Cambridge, the president of the Royal Anthropological Institute, the matter has again been taken up. He drew up a memorial which has been signed by a large number of influential persons in all departments of activity, statesmen, eminent administrators of India and the colonies, members of Parliament, merchants, students of all branches of the humanities, anthropologists, and many others. The memorial refers to the utility of anthropology in other departments of intellectual and practical life; for example, several of our distinguished administrators, both in India and the colonies, have pointed out that most of the mistakes made by officials in dealing with natives are due to lack of training in the rudiments of ethnology, primitive sociology, and primitive religion. Nor is it only for the administrator that training in anthropology and facility for its further study are important. For purposes of commerce it is of vital necessity that the manufacturer and the trader should be familiar with the habits, customs, arts, and tastes of the natives of the country with which, or in which, they carry on their business. The Germans have long since seen the value of such a training; they have spent, and are spending, large sums annually in promoting the study of the ethnology of all parts of the world, and their remarkable success in trade in recent years, not only with primitive and barbaric races, but also in China and Japan, is largely due to this fact.

"The training of young officials is a matter of national importance, and there is evidence that some of our leading administrators are fully alive to its value. Recently, Sir Reginald Wingate addressed a letter to the Universities of Oxford and Cambridge in which he asked whether those universities were prepared to give instruction in ethnology and primitive religion to probationers for Sudan Civil Service; the Oxford Anthropological Committee and the Cambridge Board of Anthropological Studies at once replied in the affirmative, and courses of instruction in those subjects have already commenced. No provision has as yet been

made anywhere for the training of schoolmasters and medical officers in anthropometry, to fit them to take measurements of school children and Army recruits. Yet this branch of anthropology is one of highest importance, not simply for scientific reasons, but because of its practical bearing on the great question of physical deterioration, which has long engaged the attention of anthropologists and the medical profession, and has lately been discussed in Parliament.

"The memorial urges the establishment in London of a bureau in which all the distinguished anthropologists of the kingdom could meet on common ground, as do all the leading mathematicians, physicians, chemists, and biologists in the Royal Society. All the elements of such a bureau already exist in the Royal Anthropological Institute of Great Britain and Ireland. This bureau would collect information respecting the ethnology, institutions, arts, religion, and laws of all races, especially of those in the British Empire, and it would publish the notes sent in by observers in all parts of the world, issuing these in the form of bulletins. The bureau might confer a diploma on officials, scientific travellers, and others who had submitted to a proper test of their distinction in some branch of anthropology, and it would approve for certificates schoolmasters and others who had shown themselves competent to make anthropometrical observations in the examinations held under the direction of the bureau. In view of the services which such a bureau would render to the nation, 'we respectfully petition His Majesty's Government to make an annual grant of 500*l.* to the Royal Anthropological Institute for carrying out the scheme set forth, and also to grant a suitable set of rooms in the Imperial Institute.'

"It is not proposed that the teaching of ethnology should form part of the work of the bureau. For many years past instruction has been given in the Universities of Oxford and Cambridge in various departments of anthropology. In the University of London are the only two professors of sociology in the kingdom, and instruction has also been given in ethnology for several years, and the University of Liverpool has a professor of social anthropology. Thus, although most of the teaching appointments are financially starved and work under unfavorable conditions, the foundations have been laid for anthropological instruction in several of our universities.

"On March 12 the Prime Minister received an influential deputation at the House of Commons, which presented to him the memorial urging the Government to establish an Imperial Bureau of Anthropology in connection with the Royal Anthropological Institute. Professor Ridgeway

pointed out that the science of anthropology could be of the highest possible service to the State in the training of Colonial and Indian administrators, and that it was also a necessity for commercial success. Sir Edward Candy said, in reply to the Prime Minister, that he would make anthropology a compulsory subject.

"The Prime Minister said that he entirely agreed that anthropology was becoming every year more and more, not only an important, but an indispensable branch of knowledge, not merely for scholars, but for persons who were going to undertake the work of administration in an Empire like ours, whether in India or in Crown Colonies. While he would hesitate to express anything like a considered and final opinion as to whether anthropology ought to be included as a compulsory subject for examination, he was quite satisfied that it was highly desirable that it should become a regular subject of study, and enter into the normal equipment of young men who went to the outlying regions of the Empire and encountered strange conditions of life. He did not, however, hold out anything like an assurance, or even an expectation, that the pecuniary grant they had asked for would be accorded. Evidently he feared that other learned societies might also urge their claims for Government support, but he did not appear to realize that a grant for a bureau is on a different footing from one merely to a society as such. The need for a bureau of ethnology is urgent, and it should be remembered that to equip a bureau as an independent body would be much more expensive than affiliating it with a society which already possesses the nucleus of the requisite organization. It is to be hoped that the Chancellor of the Exchequer will be generous to this scheme, which is certainly one of national importance.

"An additional argument for the establishment of the bureau is to be found in the Sargent prize essay by the Rev. H. A. Junod, on 'The best means of preserving the traditions and customs of the various South African native races' (Report South African Association for the Advancement of Science, 1907 [1908], p. 142). The Rev. H. A. Junod is a sympathetic missionary who is well known for his studies on the ethnology of the Ba-ronga. In this essay he points out how the old lore is passing out of remembrance or becoming modified, and he adds, 'What is wanted is a central agency which would receive the materials collected by people on the spot and publish them in a way which would make them available for science at large. There ought to be created without delay a South African Anthropological Commission, which would answer to the need just pointed out.' It would be a credit to South Africa if the scheme

outlined by M. Junod could be carried out, and all such local enterprises should be affiliated with a central bureau in London."

NEGROID CHARACTERS IN EGYPT

Mr Charles S. Myers finds (*Journal Anthropological Institute*, vol. XXXVII, Jan.-June, 1908, pp. 99-147) that the cause of the increase of negroid characters among the Moslems and Copts of Egypt as one proceeds from the Mediterranean toward the First cataract, is due to environment and not to race mixture. Mr Myers' extended investigations of the anthropology of Egypt show that the prevalent idea that Caucasian and negroid races have constituted the Egyptian population from the most ancient times to the present is unfounded. He says: "Our new anthropometric data favor the view which regards the Egyptians always as a homogeneous people who have varied now toward Caucasian, now toward negroid characters (according to environment), showing such close anthropometric affinity to Libyan, Arabian, and like neighboring peoples, showing such variability and possibly such power of absorption, that from the anthropometric standpoint no evidence is obtainable that the modern Egyptians have been appreciably affected by other than sporadic Sudanese admixture."

W. H.

NEEDLE-CASE FROM GRINNELL LAND

After the publication of my paper on the Eskimo of Baffin land and Hudson bay (vol. xv, pt. 2, *Bulletin of the American Museum of Natural History*), I found, on looking over some of my old sketches, that a needle-case of the same type as that described on page 433 of the publication cited is in the collections of the British Museum. I am obliged to the courtesy of Mr Read for a drawing of the specimen, which is here reproduced. The object was found at Rawlings bay, on the west coast of the Smith Sound region, in a district now uninhabited. It will be observed that the specimen resembles most closely the two needle-cases represented in figure 234, *d* and *e*, of the publication cited. The general shape is almost identical with the specimen from Southampton island (fig. 234, *e*), from which, however, it differs in being ornamented with incised designs. The spur lines at the top and bottom differ from those of most of the other specimens in having the spurs placed in the same direction, not pointed toward one another. The type differs some-



FIG. 16.

Bone needle-case from Rawlings bay, Smith Sound region. (1/4.)

what from the modern type of Smith sound, but I do not think that too much stress should be laid on this point, since some of the specimens from Southampton island show also a considerable variation in type which makes them in a way more similar to the Smith Sound specimens. The specimen here described shows that the distribution of this type of needle-case extended from the large islands of Hudson bay northward over Grinnell land to north Greenland.

FRANZ BOAS.

PERUVIAN MANUSCRIPT DISCOVERY

In a recent communication to the *Königliche Gesellschaft der Wissenschaften* in Göttingen, Doctor Richard Peitschmann announces the discovery, among the manuscript treasures of the Royal Library of Copenhagen, of a most valuable Peruvian picture manuscript of date 1587. It bears the mongrel Spanish title of *Nueva Corónica y Buen Gobierno*, numbers 1179 quarto pages, and deals chiefly with the history, religion, and social conditions of ancient Peru, particularly at the period of the conquest. It is written in a curious mixture of Kichua and jargon Spanish, and is the work of Don Felipe Guaman Poma de Ayala, a native of the highest imperial Inca stock. The numerous pictures indicate a remarkable development of native art. It is the intention of Doctor Peitschmann to make early publication of the entire manuscript, for which he has received the willing permission of the library authorities.

JAMES MOONEY.

ANTHROPOLOGIC MISCELLANEA

William Jones, well known among ethnologists through his researches among the Central Algonquian Indians, died on March 28, 1909, of wounds received in an attack by hostile natives of the Philippine islands. Dr Jones, by descent a member of the Fox tribe, was educated at Hampton Institute. Later he went to Andover, and then to Harvard University, where he received the degree of A.B. He continued his studies at Columbia University, where he held a fellowship and was later an assistant in



WILLIAM JONES

anthropology. He received the degree of Ph.D. from Columbia University in 1904. Although Dr Jones, in the course of his long residence in the East, had partially lost the practical knowledge of his native tongue,

he acquired it again in later years, and turned this knowledge and his intimacy with the members of his tribe to good account in carrying on his investigations. Under the joint auspices of the American Museum of Natural History and the Bureau of American Ethnology, he visited the Sauk and Fox tribe in Iowa and Oklahoma, and supplemented his researches by investigations among the Kickapoo. The excellent collections which he made on these journeys are now the property of the American Museum of Natural History in New York. The first part of the results of his studies has appeared, under the title *Fox Texts*, as Volume I of the Publications of the American Ethnological Society. This collection is the first considerable body of Algonquian lore published in accurate and reliable form in the native tongue, with translation rendering faithfully the style and the contents of the original. In form, and so far as philological accuracy is concerned, these texts are probably among the best North American texts that have ever been published.

Along with the preparation of the texts, Dr Jones made a detailed study of the grammar of the Fox dialect, part of which was published in the *American Anthropologist* (vol. 6, N. S., pp. 369-411), while a second part is to appear in the *Handbook of American Indian Languages*, which is being prepared under the auspices of the Bureau of American Ethnology.

Dr Jones had also completed a number of brief papers of eminent value to anthropologists on account of the clearness of his understanding of the thoughts and ideas of the Indians. His paper on "The Culture-Hero Tradition of the Sauk and Fox" (*Journal of American Folk-Lore*, vol. 14, 1901, pp. 225-239), and that on "The Concept of the Manitou" (*ibid.*, vol. 18, 1905, pp. 183-190), are excellent contributions to our knowledge of the Central Algonquian.

After the completion of his field-work among the Sauk and Fox, Dr Jones was appointed research assistant in the Carnegie Institution, for the purpose of conducting investigations among the Central Algonquian. He spent two seasons of field-work among the Ojibwa Indians around Lake Superior, collecting a large amount of information on their folk-lore and customs. He acquired a thorough knowledge of the Ojibwa dialect, and was able to record a vast amount of material in the native tongue. Fortunately this material is so nearly completed that it will be possible to publish it, although not in that excellent form that Dr Jones would have been able to give it. This material will presumably remain our principal source of information on the Central Algonquian. The thorough grasp of the subject that Dr Jones had attained is indicated in his brief paper on "The Central Algonkin," contributed to the *Annual Archaeological*

Report of Ontario, Canada, 1905 (pp. 136-146), and in his paper contributed to the International Congress of Americanists, 1906, on "Mortuary Observances and the Adoption Rites of the Algonkin Foxes of Iowa" (*Congrès International des Américanistes, 1906*, vol. 1, pp. 263-277).

In 1907 Dr Jones was appointed by the Field Museum of Natural History in Chicago to conduct field-work in the Philippine islands. Two years he spent in researches in Luzon, which were crowned with marked success, until in the spring of this year he fell a victim to his devotion to science. In him we have lost a faithful and painstaking investigator, a man of great promise. His training for work in North America was such that nobody is ever likely to fill his place. In possession of a fund of knowledge, he was modest and averse to display. Persistent and courageous in carrying out the work to which he had once devoted his energies, he did not shrink from privations and danger. His uprightness, courage, and modesty commanded the respect and love of all who came into close contact with him.

FRANZ BOAS.

Archeology of the Everglades region, Florida. — While visiting the Seminole Indians of Florida in February, 1908, I had occasion to make a trip into the Everglades for the purpose of collecting ethnological material. During this journey and another one made later, opportunity was found to make a few archeological observations, which, although lacking accurate measurements and details, may prove of interest. The archeological as well as the ethnological specimens secured are now in the collection of Mr George G. Heye, of New York City.

Our first discovery was a series of refuse deposits, including a shell-mound, at the forks of New river a few miles west of Fort Lauderdale, on the north side of the stream. On the surface of these, and on the edges washed by the current of the river, were picked up numerous potsherds and a few fragmentary implements of shell. To the northward, at a distance of perhaps three hundred yards from the river, lay a group of mounds, six in number, forming a row nearly parallel to the course of the stream. The largest approximates some eight feet in height, with a diameter of fifty feet; the smallest, about two feet in height and eight feet in diameter. Low embankments were noticed extending from some of the larger mounds toward the river. There were also a number of small tumuli scattered about through the scrub palmetto. One of the larger mounds had been dug into by a previous explorer, who had discovered

one skeleton, at least, judging from the whitened fragments of human bone on the pile of sand thrown from his excavation; but our party trenched through another large mound (fig. 18), with negative results.



FIG. 18. — Mound and Excavators, Florida.

Continuing westward, we dragged our canoe through the shallow waters at the head of New river and entered the deeper winding channels of that vast watery prairie, the Everglades. The first night after leaving New river we reached the island known to the "Cracker" alligator-hunters as Long key—a narrow strip of land and trees in a sea of bog and saw-grass. Near its western end we found a refuse deposit roughly estimated at two hundred feet in diameter, in some places extending down below water level, here about three feet from the surface.

Not anticipating that we would do any excavation in the glades, we had left our shovels near the mounds, but we were able with improvised tools and one trowel to secure a small collection. Most abundant among the artifacts found were the potsherds, apparently in the main derived

from bowl-shaped vessels with incurved rims. The decoration, when present, consists in some cases of rude incised patterns, while occasional examples were found showing the checkered imprints of the carved paddle. A broken shell celt; worked marine univalve shells (*Busycon* sp. ?), some of them perhaps club-heads, others plummet-like; several small awl-like implements of bone, possibly projectile points, and an implement resembling a plummet, made of some soft stone, were also found.



FIG. 19. — Large mound near Hungerland, edge of Everglades, Florida.

Like the modern Seminole, the ancient people seem to have been large users of turtles, the shells and bones of which formed the greater part of the animal remains in the refuse heap; but the bones of various mammals, the alligator, and different kinds of birds and fish, were also secured. Marine and Everglades shells were abundant, but the bulk of the heap consisted of black earth with occasional layers of ashes.

On "Pumpkin Hammock," another island, some fifteen or twenty miles farther westward, we examined a similar deposit, which occupies

nearly the whole of the available dry land, with similar results. I have been told by the hunters that there are traces of ancient camps on most of the Everglades islands.

On another trip I found a mound built directly on the swampy plain of the Glades near "Barley" Barber's trading store at "Hungerland," about thirty miles west of Jupiter. On the dry land near by is a group of tumuli, including the largest I saw in Florida (fig. 19), which must be twelve or fifteen feet high. This, like some of those at Fort Lauderdale, is provided with a raised way running from the mound toward the water.

M. R. HARRINGTON.

The Scope and Content of Anthropology.—In the last number of the *American Anthropologist* Prof. R. B. Dixon has a review of my little book on the above subject, for which I am on the whole very grateful. Suffering as a classifier of books under the great variety of opinions still prevalent among anthropologists with regard to the nomenclature, boundaries, and even main subdivisions of the science, my chief aim was an attempt to outline a compromise that would have some chance of meeting with general acceptance, because founded, as shown in the appended bibliography, on the views of a number of well-known scientists, especially in Germany and France. And I was glad to learn that a professional American anthropologist had no serious objections to offer with regard to this part of the book, although in many respects conclusions are reached that are at variance with theories generally advocated on this side of the Atlantic.

But while my reviewer apparently is inclined to accept also the main features of the library classification offered, he finds serious fault with some of its details, and, although none can be less satisfied with many of these details than the author himself, I feel that some of the shortcomings mentioned are inevitable, owing to the incomplete state of the science itself, and ought not to be laid at the door of a poor librarian, who, after all, can only accept existing conditions.

The ideal classification of the literature of any science would no doubt be one in which provision was made for every conceivable subdivision large enough to be made the subject of a separate pamphlet, and in which the arrangement was entirely logical and in close touch with the one followed by an ideal text-book on the science. But as it is the nature of the ideal to be unattainable, it is only a truism to state that the ideal text-book never is forthcoming, and still less so the ideal classification, which latter, after all, primarily must be a practical system of pigeonholes for existing and prospective literature on each subject treated.

When, therefore, Professor Dixon severely blames me for my subdivision under systematic anthropology of the American race, I have of course to admit that the geographical scheme offered, instead of the requisite sub-races, is only an unsatisfactory makeshift and a failure. But so are, to my knowledge, to this day, the attempts made by anthropologists to establish such subdivisions, and it is not the business of the classifier of books to draw on his imagination in such cases.

Professor Dixon knows better than I that no such subdivisions, founded entirely on physical characteristics, have as yet been satisfactorily established, and it is a misunderstanding of my intentions to think that systematic anthropology, as here tentatively outlined, is meant to give any consideration whatever to linguistic or other purely ethnological features. It is true that the linguistic element, as regards the form of certain headings, could not well be avoided on account of the extant literature on the subject. But it seemed to me to be entirely out of the question to extend this inclusion to the some hundred linguistic stocks that have been preliminarily mapped out inside of the American race. Nor did it seem advisable to introduce the subdivision into Dolichocephalous, Mesaticephalous, and Brachycephalous tribes, as outlined by P. Topinard in his *Anthropology* and quoted by A. H. Keane in his *Ethnology*. The somatological literature dealing with the question does not fall in line that way. And the material, upon which this and other anatomical schemes are built, is, to my knowledge, too meager and quite inadequate for the purpose. If I am not mistaken, the scientists connected with the Bureau of American Ethnology even seem to despair of the possibility of establishing, on purely anatomical grounds, a racial chart like the one mapped out for Europe. I therefore humbly submit that the shortcomings of my taxonomic scheme are not entirely due to my "spending too little time in familiarizing myself with the more elementary principles of the science."

Turning to the objections made to the ethnographical subdivisions of the Indians, I would admit that the criticism is better founded. It would perhaps have been well to give a full list of the numerous linguistic stocks that have been established with some show of scientific certainty; but my own experience with the literature of the subject led me to believe that for the great majority of libraries in this and other countries the geographical subdivision was on the whole satisfactory, and the few stocks and tribes given under the North American Indians were in no way meant to be exhaustive or logically coördinated. The headings introduced are, on the whole, taken from Dr Brinton's *The American Race*. I had

found them useful in dealing with the literature in the Field Columbian Museum, and it will be observed that space is left in the notation for some thirty additional headings, which, added to the local subdivision by states, surely will suffice for most libraries.

With regard to the omission of Polynesia, it is of course an unfortunate oversight in reading the proof. I find in my original manuscript the heading, "Polynesia (except the Hawaiian Islands)." The reason for singling out the latter group, as well as New Zealand, is of course that the extant literature seems to make it convenient.

On the whole I venture to think that Professor Dixon's objections to these and, as hinted, other details not specified, are largely due to my failure to explain in the preface the general principles followed in my scheme of classification. While an attempt certainly was made not to violate the logical sequence of minor subdivisions also, and to avoid co-ordinating headings which are dissimilar as to extent or character, I never hesitated to make exceptions whenever the literature seemed to require it, as, for instance, in the case of the Hopi (3083) and of Hawaii (2661).

A library classification of any subject is, after all, primarily a convenient arrangement of its literature, and only in the second line a logical dissection of its contents. I have no doubt that mine has its shortcomings, even regarded from this point of view; but judging from the reviews in library journals, I have hopes that it may prove useful for quite a number of years, with such additions and omissions as each classifier will have ample freedom to make, owing to the flexibility of the notation.

JUUL DIESERUD.

Archeology in Nebraska. — The following letter, from Professor F. W. Putnam of the Peabody Museum, Harvard University, forwarding to the Editor of the *American Anthropologist* the accompanying communication from the Commercial Club of Omaha, is self-explanatory. We are glad to say that the latter communication reflects a very different spirit from that recently exhibited by a Nebraska Congressman in remarks in the House of Representatives, to the effect that the National Government is wasting time and money on ethnological and archeological investigations.

MARCH 19, 1909.

MR F. W. HODGE,

Editor of *Anthropologist*.

Dear Mr Hodge: I suppose you have received a copy of the enclosed circular letter, but if not it will interest you. It seems to me that the Commercial Club of Omaha has shown a high and liberal spirit which we can all

appreciate in contrast to the narrow spirit shown in some places in trying to prevent exploration by any one not a resident of the state.

Sincerely yours,

F. W. PUTNAM.

Omaha, March 16, 1909.

Curator, Department of Anthropology,

Peabody Museum, Cambridge, Mass.

Dear Sir :

The Omaha Commercial Club invites your department, when making up its field parties, to bear in mind the almost unexplored archeologic region of which this city is the geographical center. As is well known to you, the famous Nebraska Man was discovered a few miles north of Omaha in this county. The whole valley of the Missouri River is a veritable treasurehouse for the archeologist. There are unnumbered tumuli and hundreds of large circular house ruins scattered over the bluffs near the river which exploration shows differ materially from the type of dwelling used by the Omaha, Oto, and Pawnee Indians when Nebraska was visited by Lewis and Clark. Associated with these ruins are refuse heaps and tumuli. Several types of skeletal remains and many methods of interment indicate many different peoples, and in the matter of artifacts the range probably exceeds that of any other section. Besides the more common stone objects are the more interesting implements of bone, horn, antler, and shell, which include many new forms, while the variation of pottery is almost limitless.

Desiring in a thoroughly scientific spirit to encourage the study of Nebraska's earliest people, the Omaha Commercial Club takes this means of calling your attention to this splendid field in the geographical center of the United States.

Expeditions sent into this section will find convenient electric lines to convey them to their point of labor in a few minutes. The cost of living and transportation it will be shown on inquiry of the Omaha Commercial Club are nominal, and climatic conditions here are altogether desirable.

In extending this invitation, it can be stated that the Omaha Commercial Club has the hearty cooperation of Mr Robert F. Gilder of this city, with whose work as an archeologist you may be familiar and we trust you may look upon it with favor.

Respectfully yours,

THE COMMERCIAL CLUB OF OMAHA,

By W. R. WOOD,

Secretary.

We are glad to learn that, as a result of this appeal, Professor Henry Montgomery of the University of Toronto will join Mr Gilder in archeological research in the vicinity of Omaha during the coming summer.

Theodore-Jules-Ernest Hamy. — Perhaps the oldest professorship of anthropology at any seat of learning is that connected with the Paris

Museum of Natural History. It was originally a chair of anatomy, but the name was changed in 1850 to that of the natural history of man, or "anthropology" as it came to be called by Professor Serres who was the incumbent at the time. The latter was succeeded by de Quatrefages, and he in turn by the subject of this sketch, Professor E. T. Hamy, whose death occurred November 18, 1908.

Hamy was born at Boulogne-sur-Mer in 1842. He studied medicine in Paris, receiving his degree in 1868. The title of his thesis, "The Intermaxillary Bone in Man," already indicated that his bent of mind would



E. T. HAMY (1842-1908)

lead him eventually into paths more congenial, to him, than that of the practice of medicine. A trip to Egypt in 1869 brought him into contact again with a former acquaintance, Mariette, who turned Hamy's attention toward archeology. On his return Hamy became assistant to Broca in the latter's newly installed laboratory of anthropology, being charged with conferences on craniology and craniometry.

In 1872 Hamy was appointed assistant to Professor de Quatrefages, who had succeeded Serres in the professorship of anthropology at the Museum of Natural History. Two of his first published works appeared the same year: *Précis de Paléontologie humaine* and a memoir on the nasal spine. *Crania Ethnica*, in two quarto volumes, the joint work of de Quatrefages and Hamy, appeared in 1875-82. Hamy, in the meantime, had become interested in the anthropology of the New World, and published (1880) his *Recherches historiques et archéologiques*. This new field was destined to become one of the chief theaters of his subsequent activities, as the following list of publications will prove: *Decades Americanae—Mémoires d'archéologie et d'ethnographie américaines* (1896-1899); *Lettres américaines d'Alexandre de Humboldt*; *Galerie américaine du Musée d'ethnographie du Trocadéro* (1897); and *Codex Telleriano-Remensis* (1899).

Professor Hamy was fortunate in his association with men of large mold, like Broca and de Quatrefages. He developed at a period when it was still possible for a man of industry and versatility to compass a very wide field. That he had such gifts to a marked degree is attested by the number and diversity of his achievements. His abilities as an organizer, director, and lecturer were of a high order, but his activities along these lines did not seem to lessen his productivity as author and contributor. The Bulletins of the Paris Society of Anthropology alone contain eighty-three communications from his pen. And yet he had time to preside over local societies and international congresses. At the time of his death he was still president of the *Société de Géographie de Paris* and of the *Société des Américanistes*. Of the latter he had been not only the founder, but also its only president. He founded also the *Bibliothèque ethnologique*, and, jointly with Cartailhac and Topinard, *L'Anthropologie*. Prior to the foundation of the latter journal he had been editor of the *Revue d'ethnographie*. These multifarious duties were not allowed to interfere with the routine of his lectures at the Museum as successor to de Quatrefages. It was in this capacity I first came to know him personally, and to appreciate, as so many others have done, his many-sided gifts.

Such in brief was the man whom many learned institutions, including the *Institut de France*, delighted to claim as their own, and whose death is mourned especially by anthropologists on both sides of the Atlantic.

GEORGE GRANT MACCURDY.

The New Serpent Mound in Ohio.—Mr Harlan I. Smith's confident denial of the genuineness of the "New Serpent Mound in Ohio,"

of which I gave an account in *Records of the Past* for September-October, 1908, should not be permitted to go unchallenged. In the first place, his own testimony is worthless, because he confesses that his "personal explorations were confined to that portion lying within the maple forest. . . . In fact," he says, "I did not even attempt to trace the other embankments." Against this I place the fact that Dr Metz did survey the whole mound, and his directions and distances are given in my article. Unfortunately the illustration given in the September-October number was not accurately drawn, but in the November-December number is

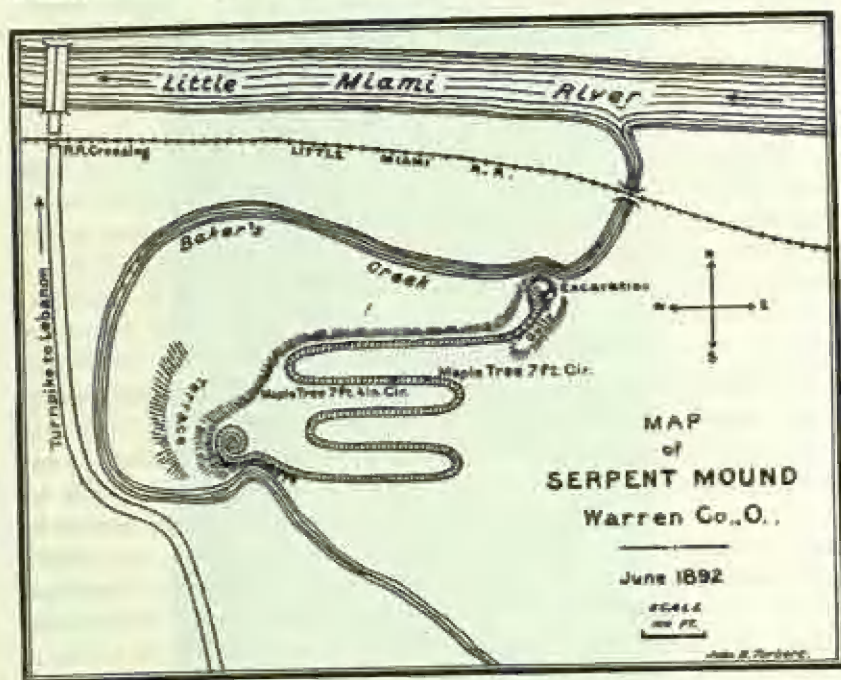


FIGURE 21.

given the drawing made by Dr Metz immediately after his measurements. The plan is here redrawn and reproduced (fig. 21).

As to the statement that "the most accurate published map of this site" is found in Charles Whittlesey's paper published in volume III of the *Smithsonian Contributions*, Mr Smith should have stated that Whittlesey did not pretend that this map was from an accurate survey. Whittlesey says: "The survey was made under circumstances that did not allow of a minute measurement of all parts of the work . . . Some of the

details are given from an eye sketch, and this obstructed occasionally by a snowstorm" (p. 8). Mr Smith adds that Whittlesey's survey distinctly shows "that the work is not a serpent mound"; whereas it simply shows that he did not, as he says, make any accurate survey at all.

To put such testimony as this against the detailed survey of such an authority as Dr Metz, and the testimony of eye-witnesses like Mr E. O. Randall and Dr Charles Hough, to say nothing of myself, is well-nigh unpardonable in one who is attempting to enlarge scientific knowledge. Perhaps, and probably, when Mr Smith was upon the ground, the portion of the serpent in the cleared field was covered with grass or with growing crops. But as he made no attempt to survey it, it was hardly proper for him to speak so confidently about that of which on his own confession he knew nothing, while if he had read carefully Colonel Whittlesey's report he would never have made Whittlesey's map the basis of a positive statement.

G. FREDERICK WRIGHT.

The Heye Collection. — As is well known to readers of this journal, Mr George G. Heye, of New York, has been forming, for several years, a collection of aboriginal American objects, with the result that he has brought together the largest and scientifically the most valuable series of ethnological and archeological objects ever assembled by an individual. As the collection has outgrown the facilities of a private establishment, and in order to make it more accessible to students, Mr Heye has deposited it in the Museum of the University of Pennsylvania, at Philadelphia, where it is now being installed by Mr George H. Pepper, formerly of the American Museum of Natural History, New York. Students of American ethnology and archeology generally, and the University of Pennsylvania in particular, are to be congratulated on thus being made the beneficiaries of Mr Heye's generosity.

McElmell Cañon. — It will be of interest to archeologists to know that the gorge in southwestern Colorado popularly known as "McElmo cañon," celebrated for its cliff-dwellings and other ancient Pueblo remains, should properly be called McElmell cañon, from Thomas A. McElmell, who settled there soon after the Civil War. This information is derived from Mr D. M. Riordan, of New York, long a resident of the Far West, and once agent for the Navaho Indians. The name became confused with that of the popular novel *Saint Elmo*, by Augusta Evans Wilson, recently deceased, which made its appearance in 1866, about the time Mr McElmell settled in the cañon that should bear his name.

THE fiftieth anniversary of the founding of the Paris Society of Anthropology will be celebrated July 7-9, 1909. Anthropological societies and institutions all over the world are invited to send delegates. The program includes a discourse by the Minister of Public Instruction and Fine Arts, an address by the president of the Society, a report by the general secretary on the scientific activities of the Society since its foundation, and messages from delegates who are to be the guests of the Society at a luncheon and a dinner.

THE Legislature of New Mexico has recently passed a bill establishing the Museum of New Mexico, which is placed under the control of the Archeological Institute of America, with a subsidy of five thousand dollars per annum. The old Palace at Santa Fé has been granted for the use of the Museum and of the School of American Archeology recently founded by the Archeological Institute.

THE title of honorary keeper of the Ashmolean Museum, Oxford, has been conferred upon Dr Arthur Evans "in consideration of his eminent services to the university as keeper of the Ashmolean Museum, extending over twenty-five years." The thanks of the University were also given to Dr Evans for his recent gift to the museum, as previously announced in these pages.

THE fifth session of the Congrès Préhistorique de France will be held at Beauvais (Oise), July 26-31. Dr Th. Baudon is president and Dr Marcel Baudouin secretary of the committee of organization. Communications may be addressed to M. Louis Giraux, treasurer, Avenue Victor-Hugo, 9^{me} Saint-Mandé (Seine).

THE Wahlburg gold medal of the Swedish Society for Anthropology and Geography has been awarded to Dr Sven Hedin. This is the second presentation of the medal, it having been given previously to Professor G. Retzius.

DR A. L. KROEBER, of the University of California, Prof. M. H. Saville, of Columbia University, and Drs A. M. Tozzer and W. C. Farrow, of Harvard University, have been elected members of the American Antiquarian Society.

THE twenty-first session of the Congrès Archéologique et Historique de Liège (Belgium) will be held from July 31 to August 5. The presidents of the Congress are J. Fraipont and G. Kurth; the secretaries, J. Brassinne and L. Renard-Grenson.

THE University of Nebraska has published *A Guide to the Courses in Social Anthropology*, prepared by Professor Hutton Webster. It is gratifying to note how rapidly the need of a course in anthropology is being felt even by the less prominent universities of the country.

THE managers of the department of archeology of the University of Pennsylvania have awarded the Lucy Wharton Drexel medal, for important work in exploration and publication, to Professor Rudolph E. Brunnow, for his work in Assyria and in the exploration of Arabia.

MR ECKLEY BRINTON COXE, JR., founder of the Coxe Archeological Expedition from the University of Pennsylvania, and Dr George B. Gordon, curator of the museum, have sailed for Egypt to join members of the expedition who are working in Nubia.

LORENZO G. YATES, author of various papers on the archeology of the Pacific coast, died at his home in Santa Barbara, California, January 30.

DR GEORGE GRANT MACCURDY, of Yale University, gave a lecture before the Buffalo Society of Natural Sciences on February 26th, his subject being "The Ancient Art of Chiriqui."

PROFESSOR KARL PEARSON gave, in January, before the Royal Institution of Great Britain, two lectures on "Albinism in Man."

American Anthropological Association

OFFICERS AND MEMBERS¹

1909

OFFICERS

PRESIDENT, WILLIAM H. HOLMES, Washington.

VICE-PRESIDENT 1912, ROLAND B. DIXON, Cambridge.

VICE-PRESIDENT 1911, MISS ALICE C. FLETCHER, Washington.

VICE-PRESIDENT 1910, GEORGE A. DORSEY, Chicago.

VICE-PRESIDENT 1909, CLARENCE B. MOORE, Philadelphia.

SECRETARY, GEORGE GRANT MACCURDY, New Haven.

TREASURER, B. TALBOT B. HYDE, New York.

EDITOR, F. W. HODGE, Washington.

COUNCIL: W. J. MCGEE, F. W. PUTNAM, F. BOAS, W. H. HOLMES, C. B. MOORE, G. A. DORSEY, ALICE C. FLETCHER, R. B. DIXON, G. G. MACCURDY, B. T. B. HYDE, F. W. HODGE (*ex-officio*); F. BAKER, L. FARRAND, B. LAUFER, J. D. MCGUIRE, J. MOONEY, C. PEABODY (1909); C. P. BOWDITCH, A. F. CHAMBERLAIN, S. CULIN, J. WALTER FEWKES, G. B. GORDON (1910); E. L. HEWETT, J. N. B. HEWITT, W. HOUGH, A. HRDLÍČKA, A. L. KROEBER, A. M. TOZZER (1911); M. H. SAVILLE, H. I. SMITH, G. H. PEPPER, W. C. FARABEE, J. R. SWANTON, G. G. HEYE (1912).

LIFE MEMBERS

MR EDWARD E. AYER,*
Railway Exchange Building, Chicago.
MR WILLIAM K. BIXBY,
805 Century Building, St. Louis.
MR CHARLES P. BOWDITCH,*
28 State st., Boston.
MR P. G. GATES,
South Pasadena, Cal.

MR GEORGE G. HEYE,
52 Broadway, New York City.
MR ARCHER M. HUNTINGTON,*
Hispanic Society of America, Audubon
Park, New York City.
M. LE DUC DE LOUBAT,*
53 Rue Dumont d'Urville, Paris.
MR CLARENCE B. MOORE,*
1321 Locust st., Philadelphia.

MEMBERS

ACADEMY OF NATURAL SCIENCES,
Philadelphia, Pa.
MR D. S. ADAMS,
1315 Constance st., Los Angeles, Cal.
MR EDWARD D. ADAMS,*
71 Broadway, New York City.
ADELBERG COLLEGE LIBRARY,
Cleveland, Ohio.
DR CYRUS ADLER,
2041 N. Broad st., Philadelphia, Pa.

DR JUAN B. AMEROSSETTI,*
Santiago del Estero 1298, Buenos Aires,
Argentina.
AMERICAN GEOGRAPHICAL SOCIETY,
15 West 51st st., New York City.
AMERICAN MUSEUM OF NATURAL
HISTORY,
New York City.
AMERICAN PHILOSOPHICAL SOC'Y,
104 South Fifth st., Philadelphia, Pa.

¹ Members whose names are marked with an asterisk (*) are Founders of the Association.

- MR HENRY M. AMI,
Geological Survey of Canada, Ottawa.
- ATHENEUM LIBRARY,
Minneapolis, Minn.
- MR E. E. BAIRD,
216 S. Main st., Poplar Bluff, Mo.
- DR FRANK BAKER,
Zoological Park, Washington, D. C.
- DR S. A. BARRETT,
3053 Hillegas ave., Berkeley, Cal.
- DR GEORGE M. BARRIE,*
2131 Mass. ave., Washington, D. C.
- DR ROBERT BENNETT BEAN,
Philippine Medical School, Manila, P. I.
- MR HUCKNER BEASLEY,
132 Commerce st., Montgomery, Ala.
- MISS MARTHA WARREN BECKWITH,
425 West 118th st., New York City.
- MR THOMAS BECKWITH,
Box 457, Charleston, Mo.
- BERNICE PAUAI BISHOP MUSEUM,
Honolulu, Hawaii.
- BELOIT COLLEGE LIBRARY,
Beloit, Wisconsin.
- MR DANIEL D. BEROLZHEIMER,
286 West 151st st., New York City.
- BIBLIOTECA NACIONAL,
Santiago, Chile.
- MRS THOMAS B. BISHOP,
2309 Washington st., San Francisco, Cal.
- MR A. H. BLACKISTON,
48 Washington st., Cumberland, Md.
- DR FRANZ BOAS,*
Columbia University, New York City.
- S. ALTESSE LE PRINCE ROLAND
BONAPARTE,
10 Avenue d'Jena, Paris, France.
- MR JACOB T. BOWNE,
121 Northampton st., Springfield, Mass.
- DR DAVID BOYLE,*
Dept. of Education, Toronto, Canada.
- DR J. C. BRANNER,*
Stanford University, California.
- MR PETER A. BRANNON,
Box 358, Montgomery, Ala.
- MISS ADELA C. BRETON,
Care Wilts and Dorset Bank, Bath, Eng-
land.
- MR SAMUEL W. BREWSTER,
Chenute, Kansas.
- REV. DR R. J. BRIGGS,
Austin, Texas.
- BROOKLYN INSTITUTE MUSEUM LIB.,
Eastern Parkway, Brooklyn, N. Y.
- MR HENRY L. BROOMALL,
14 South ave., Media, Pa.
- MR HERBERT BROWN,
Box 6, Tucson, Arizona.
- BROWN UNIVERSITY LIBRARY,
Providence, Rhode Island.
- MR JAMES C. BRUSH,
Carbondale, Ill.
- MRS EMMA F. JAY BULLENE,*
- DR E. S. BURGESS,*
11 West 88th st., New York City.
- MR DAVID I. BUSHNELL, JR.,
Care Bureau of American Ethnology,
Washington, D. C.
- DR AMOS W. BUTLER,*
State House, Indianapolis, Indiana.
- DR R. D. CAMBIASO,
212 Apartado de Correo, San Domingo
City, San Domingo.
- CALIFORNIA ACADEMY OF SCIENCES,
San Francisco, Cal.
- MR H. H. CAMMANN,*
43 West 38th st., New York City.
- MR JOSEPH P. CAMP,
2017 I st., N. W., Washington, D. C.
- MR GEORGE RANDOLPH CANNON,
306 West Grace st., Richmond, Va.
- PROF. L. CAPITAN,
5 Rue des Ursulines, Paris, France.
- MR F. F. CAREY,
Tuxedo Park, N. Y.
- CARNEGIE LIBRARY,
Pittsburg, Pa.
- PROF. MITCHELL CARROLL,
George Washington University, Wash-
ington, D. C.
- DR ALEXANDER F. CHAMBERLAIN,*
Clark University, Worcester, Mass.
- CINCINNATI PUBLIC LIBRARY,
Cincinnati, Ohio.
- CITY LIBRARY ASSOCIATION,
Springfield, Mass.
- CLEVELAND PUBLIC LIBRARY,
Cleveland, Ohio.
- MRS KATE FOOTE COE,
Drawer 1, New Haven, Conn.
- COLUMBIA UNIVERSITY LIBRARY,
New York City.
- MR WM. E. CONNELLEY,
816 Lincoln st., Topeka, Kansas.
- MR F. C. COLE,
Field Museum of Natural History, Chi-
cago.
- MR MADISON COOPER,
Watertown, N. Y.
- CORNELL UNIVERSITY LIBRARY,
Ithaca, New York.
- MR STEWART CULIN,*
Brooklyn Institute Museum, Brooklyn,
N. Y.
- PROF. BYRON CUMMINGS,
State University, Salt Lake City, Utah.

- DR R. G. CURTIN,*
22 South 18th st., Philadelphia, Pa.
- MR E. S. CURTIS,
Seattle, Washington.
- MR G. CUSACHS,
524 Esplanade, New Orleans, La.
- MR G. E. DAVIS,
Dubuque, Iowa.
- MISS A. H. DAY,
28 Fifth ave., New York City.
- DR GEORGE V. N. DEARBORN,
Tufts College Medical School, Boston,
Mass.
- MR F. S. DELLENBAUGH,*
Century Club, New York City.
- MR G. E. DIMOCK,*
Elizabeth, New Jersey.
- DR ROLAND B. DIXON,*
Harvard University, Cambridge, Mass.
- PROF. B. E. DODGE,*
Teachers College, Columbia University,
New York City.
- DR H. H. DONALDSON,
Wistar Institute of Anatomy, Phila.
- DR GEORGE A. DORSEY,*
Field Museum of Natural History, Chi-
cago.
- DR R. A. DOUGLAS-LITHGOW,
1 Mountfort st., Boston, Mass.
- MRS M. A. DRAKE,
220 S. Franklin st., Franklin, N. H.
- MISS CONSTANCE GODDARD DU BOIS,*
Waterbury, Connecticut.
- MR WILBERFORCE EAMES,
Lenox Library Bldg., N. Y. City.
- LIEUT. GEORGE T. EMMONS, U.S.N.,
Princeton, N. J.
- DR ARTHUR W. FAIRBANKS,
591 Beacon st., Boston, Mass.
- DR WM. C. FARABEE,
Peabody Museum, Cambridge, Mass.
- PROF. AMOS W. FARNHAM,
State Normal School, Oswego, New York.
- DR LIVINGSTON FARRAND,*
Columbia University, New York City.
- MRS EVA S. FENYES,
P. O. Box W, Pasadena, Cal.
- MR JOHN W. FERGUSON,
United Bank Bldg., Paterson, N. J.
- DR J. WALTER FEWKES,*
Bureau of American Ethnology, Wash-
ington, D. C.
- DR CARL FISCH,
3212 Pine st., St. Louis, Mo.
- DR MAURICE FISHBERG,
1337 Madison ave., New York City.
- PROF. IRVING FISHER,
460 Prospect st., New Haven, Conn.
- MISS ALICE C. FLETCHER,*
214 First st., S. E., Washington, D. C.
- DR J. M. FLINT,*
National Museum, Washington, D. C.
- DR DANIEL FOLKMAR,*
1215 N st., n. w., Washington, D. C.
- PROF. CHARLES FORDYCE,
State University, Lincoln, Neb.
- MR ROBERT GRAHAM FULLER,
446 Walnut st., Brookline, Mass.
- DR WILLIAM H. FURNESS, 3d,
University of Pennsylvania Museum,
Philadelphia.
- MR CHARLES W. GATES,
Pasadena, Cal.
- DR E. GATES,*
Chevy Chase, Maryland.
- GEOLOGICAL SURVEY OF CANADA,
Ottawa, Canada.
- MR WILLIAM R. GERARD,
234 Bradhurst ave., New York City.
- PROF. FRANKLIN H. GIDDINGS,
Columbia University, New York City.
- MR ROBERT F. GILDER,
Care World-Herald, Omaha, Neb.
- DR PLINY E. GODDARD,
University of California, Berkeley, Cal.
- DR GEORGE BYRON GORDON,
University of Pennsylvania, Philadelphia.
- GRAND RAPIDS PUBLIC LIBRARY,
Grand Rapids, Mich.
- MR PERCY T. GRIFFITH,
66 Pine st., New York City.
- DR GEORGE BIRD GRINNELL,*
127 Franklin st., New York City.
- MR STANSBURY HAGAR,*
48 Wall st., New York City.
- MR ROBERT C. HALL,
240 Fourth ave., Pittsburgh, Pa.
- MRS JOHN HAYS HAMMOND,
Lakewood, N. J.
- MR. H. L. HARDER,
City Hall, Paterson, N. J.
- MR W. RAYMOND HARRINGTON,
Care of Mr George G. Heye, 52 Broad-
way, New York City.
- MR H. H. HARRISON,
52 Broadway, New York City.
- MRS RALPH C. HARRISON,
1998 Vallejo st., San Francisco, Cal.
- MR E. SIDNEY HARTLAND,
Highgarth, Gloucester, England.
- MR C. V. HARTMAN,
Ethnographical Museum, Stockholm,
Sweden.
- PROF. CHARLES H. HAWES,
402 West Main st., Madison, Wis.
- DR HENRY W. HAYNES,*
239 Beacon st., Boston, Massachusetts.
- MRS PHEBE A. HEARST,*
Pleasanton, California.

- REV. JOSEPH C. HERRICK,
St. Joseph's Seminary, Yonkers, N. Y.
- MRS R. F. HERRICK,
Eureka, Cal.
- MRS ESTHER HERRMAN,*
334 West 72d st., New York City.
- MR RICHARD HERRMANN,*
Dubuque, Iowa.
- MR EDWARD W. HEUSINGER,
113 City st., San Antonio, Texas.
- DR EDGAR L. HEWETT,*
Care Bureau of American Ethnology,
Washington, D. C.
- MR J. N. B. HEWITT,*
Bureau of American Ethnology, Wash-
ington, D. C.
- DR CHARLES HILL-TOUT,
Buckland, Abbotsford, B. C.
- MR PHILIP HINKLE,
113 East Fourth st., Cincinnati, O.
- MR F. W. HODGE,*
Bureau of American Ethnology, Wash-
ington, D. C.
- DR WILLIAM J. HOLLAND,*
Carnegie Museum, Pittsburgh, Pa.
- MR WILLIAM H. HOLMES,*
Bureau of American Ethnology, Wash-
ington, D. C.
- MR HOMER E. HOOPES,
Media, Pennsylvania.
- MRS MILDRED C. B. HOOVER,
Box 393, Palo Alto, California.
- DR WALTER HOUGH,*
National Museum, Washington, D. C.
- HOWARD MEMORIAL LIBRARY,
New Orleans, La.
- DR ALES HRDLICKA,
National Museum, Washington, D. C.
- MR LORENZO HUBBELL,
Ganado, Arizona.
- MR J. F. HUCKEL,*
Union Station Annex, Kansas City, Mo.
- DR J. W. HUDSON,
Ukiah, California.
- DR H. M. HURD,*
Johns Hopkins Hospital, Baltimore, Md.
- DR JULIUS H. HURST,
Monte Cito, Santa Barbara, Cal.
- DR WALTER HURST,
172 Bethune ave. W., Detroit, Mich.
- MR DAVID HUTCHESON,*
Box 8, East Capitol st., Washington,
D. C.
- MR B. TALBOT B. HYDE,
Century Club, New York City.
- MISS ELIZABETH M. HYDE,*
210 East 18th st., New York City.
- DR H. von IHERING,
Museu Paulista, São Paulo, Brazil.
- ILLINOIS UNIVERSITY LIBRARY,
Urbana, Ill.
- INDIANA STATE LIBRARY,
Indianapolis, Indiana.
- IOWA STATE LIBRARY,
Iowa City, Iowa.
- MR G. WHARTON JAMES,*
1098 N. Raymond st., Pasadena, Cal.
- DR H. JAYNE,*
Wistar Institute, University of Penn-
sylvania, Philadelphia, Pa.
- MR L. W. JENKINS,
Peabody Academy of Science, Salem,
Mass.
- DR ALBERT ERNEST JENKS,*
University of Minnesota, Minneapolis.
- DR WALDEMAR JOCHELSON,
Care American Museum of Natural His-
tory, New York City.
- JOHN CRERAR LIBRARY,
Chicago, Ill.
- DR HERMAN F. TEN KATE,
Care Martinus Nyhoff, The Hague, Hol-
land.
- PROF. FRANCIS W. KELSEY,
University of Michigan, Ann Arbor.
- DR KARL S. KENNARD,
280 Burnside ave., New York City.
- MISS GEORGIANA G. KING,
Wayne and Walnut sts., Germantown,
Pa.
- DR H. KINER,*
1103 Rutger st., St. Louis, Mo.
- MISS MARY LUIS KISSELL,
American Museum of Natural History,
New York City.
- DR GEORGE M. KOBER,*
1819 Q st., Washington, D. C.
- DR A. L. KROEBER,*
Affiliated Colleges, San Francisco, Cal.
- MR FRANCIS LA FLESCHÉ,
214 First st., S. E., Washington, D. C.
- DR BERTHOLD LAUFER,
Field Museum of Natural History,
Chicago.
- DR SAMUEL A. LAFONE QUEVEDO,
Museo de La Plata, La Plata, Argentina.
- MRS MARIE LUCILE LA MOREAUX,
150 Lear st., Dallas, Texas.
- DR R. LEHMANN-NITSCHÉ,*
Museo de la Plata, La Plata, Argentina.
- LELAND STANFORD JR. UNIVERSITY,
Stanford University, Cal.
- DR J. S. LEMON,*
31 Park st., Gardner, Mass.
- DR RODOLFO LENZ,
Casilla 844, Santiago de Chile, Chile.
- DR NICOLAS LEÓN,
38 del Fresno, No. 92, City of Mexico.

- DR A. B. LEWIS,
Field Museum of Natural History,
Chicago.
- MR EDWARD LINDSEY,*
Warren, Pa.
- MR M. C. LONG,*
Missouri ave. and Main st., Kansas City,
Missouri.
- REV. DR JAMES WILLIAM LOWBER,
113 East 18th st., Austin, Texas.
- MR R. H. LOWIE,
American Museum of Natural History,
New York City.
- DR CARL LUMHOLTZ,*
Care Norwegian Consulate, New York
City.
- MR S. A. LURVEY,
Box 151, South West Harbor, Maine.
- LYNNE PUBLIC LIBRARY,
Lyme, Conn.
- MR STANLEY McCORMICK,*
1009 Pemberton Bldg., Boston, Mass.
- DR GEORGE GRANT MACCURDY,*
Yale University, New Haven, Conn.
- DR J. B. McGEE,*
1403 Woodland ave., Cleveland, Ohio.
- DR W. J. McGEE,*
Dept. of Agriculture, Washington, D. C.
- MR J. D. McGUIRE,*
1834 16th st., Washington, D. C.
- MR T. A. McKAY,
Cloquet, Minn.
- DR F. W. MARLOW,*
200 Highland st., Syracuse, New York.
- REV. J. D. MARMOR,

DR W. L. MARSDEN,
Burns, Oregon.
- MYRA B. MARTIN,*
27 William st., New York City.
- MR PARKER D. MARTIN,
Box 122, South Deerfield, Mass.
- PROF. DR RUDOLF MARTIN,
Neue Beckenhofstr. 16, Zürich, Switzer-
land.
- MR ALBERT MATTHEWS,*
Hotel Oxford, Boston, Mass.
- MR JOHN D. MATTSON,
2017 I st., N. W., Washington, D. C.
- PROF. GEORGE H. MEAD,
University of Chicago, Chicago, Ill.
- DR C. HART MERRIAM,
Dept. of Agriculture, Washington, D. C.
- DR JOHN C. MERRIAM,
University of California, Berkeley, Cal.
- REV. BARNABAS MEYER,
Jemez, New Mexico.
- DR N. G. MILLER,
4018 Spring Garden st., Philadelphia, Pa.
- DR MERTON L. MILLER,*
324 East Villa st., Pasadena, Cal.
- MR W. C. MILLS,*
State University, Columbus, Ohio.
- MILWAUKEE PUBLIC MUSEUM,
Milwaukee, Wis.
- REV. CHARLES A. MITCHELL,
Bellevue, Nebraska.
- MR E. J. MOLERA,*
2025 Sacramento st., San Francisco, Cal.
- PROF. WILL S. MONROE,
State Normal School, Upper Montclair,
N. J.
- MR FREDERICK MONSEN,
Salmagundi Club, 14 West 12th st.,
New York City.
- DR C. J. MONTGOMERY,
The Hill, Augusta, Georgia.
- PROF. HENRY MONTGOMERY,
University of Toronto, Toronto, Canada.
- MR JAMES MOONEY,*
Bureau of American Ethnology, Wash-
ington, D. C.
- MR WARREN K. MOOREHEAD,*
Phillips Academy, Andover, Mass.
- REV. A. G. MORICE, O. M. I.,
Kamloops, B. C.
- MR SYLVANUS G. MORLEY,
Swarthmore, Pa.
- DR T. F. MOSES,*
Worcester Lane, Waltham, Mass.
- MR LEWIS F. MOTT,*
College of the City of New York, New
York City.
- MR JOHN MURDOCH,*
19 Wendell st., Cambridge, Mass.
- MUSEO DE LA PLATA,
La Plata, Argentina.
- MUSEO NACIONAL DE BUENOS AIRES,
Buenos Aires, Argentina.
- MR BENJAMIN F. NEAD, JR.,
Harrisburg, Pa.
- MR NELS C. NELSON,
Berkeley, Cal.
- MR WILLIAM NELSON,*
288 Broadway, Paterson, N. J.
- NEWBERRY LIBRARY,
Chicago, Illinois.
- DR C. F. NEWCOMBE,
105 Niagara st., Victoria, B. C.
- NEW HAMPSHIRE HISTORICAL SOC'Y,
Concord, New Hampshire.
- NEW YORK PUBLIC LIBRARY,
New York City.
- MISS GRACE NICHOLSON,
46 North Los Robles ave., Pasadena, Cal.
- REV. J. B. NIES,*
Hotel Margaret, Brooklyn, N. Y.
- MR ARTHUR W. NORTH,
Box 607, Walton, New York.

- MR GEORGE B. NOYES, JR.,
Stonington, Maine.
- DR R. J. NUNN,*
119 York st., Savannah, Georgia.
- MRS ZELIA NUTTALL,*
Casa Alvarado, Coyacán, D. F., Mexico.
- DR HALDEMAN O'CONNOR,
13 North Front st., Harrisburg, Pa.
- DR FÉLIX F. OUTES,
La Plata Museum, La Plata, Argentina.
- MR C. L. OWEN,*
Field Museum of Natural History, Chicago, Ill.
- DR THOMAS M. OWEN,
Montgomery, Ala.
- HON. VICTOR H. PALTSITS,
State Historian, Albany, N. Y.
- DR WILLIAM F. PARKS,
Frisco Bldg., 9th and Olive, St. Louis, Mo.
- MR H. H. PARSONS,*
84 Griswold st., Detroit, Michigan.
- DR CHARLES PEABODY,*
197 Brattle st., Cambridge, Mass.
- MRS LUCY E. PEABODY,*
1430 Corona st., Denver, Colorado.
- PEABODY MUSEUM,
Cambridge, Mass.
- PROF. J. E. PEARCE,*
High School, Austin, Texas.
- MR HAROLD PEIRCE,*
222 Drexel Building, Philadelphia, Pa.
- MR GEORGE H. PEPPER,*
University of Pennsylvania Museum,
Philadelphia.
- PROF. G. H. PERKINS,*
Burlington, Vermont.
- DR C. A. PETERSON,*
347 Church ave., Webster Grove, Mo.
- DR W. A. PHILLIPS,
1711 Hinman ave., Evanston, Ill.
- DR H. PITTIER DE FÁRREGA,*
Bureau of Plant Industry, Washington.
- DR ALEXANDER PRATT, JR.,*
26 Bunnell st., Bridgeport, Connecticut.
- PROF. J. DYNELEY PRINCE,*
Columbia University, New York City.
- DR T. MITCHELL PRUDEN,*
160 West 59th st., New York City.
- PUBLIC LIBRARY, MUSEUMS, AND
NATIONAL GALLERY,
Melbourne, Victoria.
- MR FRANKLIN PROCTOR,
Franklin Falls, N. H.
- MR EDWARD KIRBY PUTNAM,
Davenport, Iowa.
- MISS ELIZABETH DUNCAN PUTNAM,
Davenport, Iowa.
- PROF. F. W. PUTNAM,*
Peabody Museum, Cambridge, Mass.
- MR PAUL RADIN,
844 Teasdale Pl., The Bronx, N. Y. City.
- DR ADOLPH C. REICHARD,
Marine Biological Laboratory, Helgoland, Germany.
- DR JOSEPH REINHART,
High School, Paterson, N. J.
- MRS THOMAS ROBERTS,
The Aldine, Philadelphia, Pa.
- MR MORGAN P. ROBINSON,
113 South Third st., Richmond, Va.
- DR S. A. ROBINSON,*
Crozet, Va.
- DR WALTER E. ROTH,
Pomeroon River, British Guiana.
- MR CORNELIUS E. RUMSEY,
R. D. 2, Riverside, Cal.
- MR. WILLIAM E. SAFFORD,
Bureau of Plant Industry, Washington.
- ST. LOUIS MERCANTILE LIBRARY,
St. Louis, Mo.
- MR EDWARD SAPIR,
University of Pennsylvania Museum,
Philadelphia.
- DR D. A. SARGENT,
Harvard University, Cambridge, Mass.
- MR HOMER E. SARGENT,
Detroit, Becker co., Minn.
- PROF. MARSHALL H. SAVILLE,*
Columbia University, New York City.
- MR SIDNEY B. SCHUYLER,
705 Market st., St. Louis, Mo.
- MR HERBERT F. SCHWARTZ,
20 East 61st st., New York City.
- COL. H. L. SCOTT, U. S. A.,*
West Point, New York.
- MISS S. A. SCULL,*
401 Water st., Smithport, Pennsylvania.
- MRS MARIANNA P. SEAMAN,*
1424 Eleventh st., Washington, D. C.
- DR HERVEY W. SHIMER,
5 Albemarle Chambers, Boston, Mass.
- MR A. T. SINCLAIR,
37 North Beacon st., Allston, Mass.
- MR ALANSON SKINNER,
50 Sherman ave., Tompkinsville, N. Y.
- DR C. E. SLOCUM,*
Defiance, Ohio.
- MR HARLAN I. SMITH,
American Museum of Natural History,
New York City.
- MISS LAUREN P. SMITH,
219 East Market st., Warren, Ohio.
- DR LEE H. SMITH,
663 Main st., Buffalo, N. Y.
- MR OTTO STÖGER,
Natišna ul Cr 3, Zagreb, Hungary.
- SOMERVILLE PUBLIC LIBRARY,
Somerville, Mass.

- MR FRANK G. SPECK,
University of Pennsylvania Museum,
Philadelphia.
- MR H. J. SPINDEN,
Peabody Museum, Cambridge, Mass.
- DR EDWARD ANTHONY SPITZKA,
Jefferson Medical College, Philadelphia.
- DR FREDERICK STAER,*
Chicago University, Chicago, Illinois.
- MR VILHJÄLMUR STEFANSSON,
15 W. 81st st., New York City.
- DR KARL VON DER STEINEN,
1 Friedrichstr., Steglitz, Berlin, Germany.
- DR JAMES F. STEVENS,*
1135 O st., Lincoln, Nebraska.
- PROF. WILLIAM BENJAMIN SMITH,
Tulane University, New Orleans, La.
- MR ALFRED HOLT STONE,
Dunkirk, Mississippi.
- DR WILLIAM A. STONE,
Michigan Asylum for the Insane,
Kalamazoo, Mich.
- PROF. WILLIAM G. SUMNER,
240 Edwards st., New Haven, Conn.
- MR BRADSHAW H. SWALES,
Grosse Ile, Michigan.
- DR JOHN R. SWANTON,*
Bureau of American Ethnology, Wash-
ington, D. C.
- MR ERASTUS TEFFT,
1 Nassau st., New York City.
- HON. JOHN H. TERRY,
5825 Clemens ave., St. Louis, Mo.
- MR BENJAMIN THAW,*
1046 Fifth ave., New York City.
- PROF. W. I. THOMAS,
Chicago University, Chicago, Ill.
- DR ALTON H. THOMPSON,*
720 Kansas ave., Topeka, Kansas.
- PROF. E. L. THORNDIKE,*
Columbia University, New York City.
- DR TOWNSEND W. THORNDIKE,
20 Newbury st., Boston, Mass.
- MR WILLIAM WALLACE TOOKER,*
Sag Harbor, New York.
- TORONTO PUBLIC LIBRARY,
Toronto, Canada.
- TORONTO UNIVERSITY LIBRARY,
Toronto, Canada.
- DR LUIS MARIA TORRES,
Museo Mitre, Calle San Martin 336,
Buenos Aires, Argentina.
- DR A. M. TOZZER,*
Peabody Museum, Cambridge, Mass.
- DR MAX UHLE,
Museo de Historia Nacional, Lima, Peru.
- UNIVERSIDAD NACIONAL DE BUENOS
AIRES, FACULTAD DE FILO-
SOFIA Y LETRAS,
Calle Viamonte 430, Buenos Aires,
Argentina.
- UNIVERSIDAD NACIONAL DE LA
PLATA (BIBLIOTECA),
La Plata, Argentina.
- MR H. H. VAIL,*
American Book Co., Washington Square,
New York City.
- MRS EDW. PLEASANTS VALENTINE,
411 E. Franklin st., Richmond, Va.
- DR T. WAYLAND VAUGHAN,*
National Museum, Washington, D. C.
- MR F. W. VOLLMANN,
Steboltz 1/Sachsen, Germany.
- MR A. C. VROMAN,*
Pasadena, California.
- HON. E. E.-M. GREGORIE DE WALLANT,
Legacion de Russia, 4a Bucarelli 1833,
City of Mexico.
- MR FRANK WALTERS,
South Sandisfield, Mass.
- MR ATREUS WANNER,
York, Pennsylvania.
- MISS H. NEWELL WARDLE,*
Academy of Natural Sciences, Phila.
- PROF. H. C. WARREN,*
Princeton, New Jersey.
- WATKINSON LIBRARY,
Hartford, Conn.
- REV. ANSELM WEBER, O.F.M.,
St. Michaels, Arizona.
- MR LINCOLN WELLES,
Wyalusing, Pa.
- MR GEORGE A. WEST,
Highland Boulevard, Milwaukee, Wis.
- DR M. F. WHEATLAND,*
84 John st., Newport, Rhode Island.
- MR JOHN JAY WHITE, JR.,
103 E. 37th st., New York City.
- JUDGE JAMES WICKERSHAM,*
Fairbanks, Alaska.
- MR CHARLES W. WIEGEL,
1417 Fourth ave. W., Seattle, Wash.
- DR HARRIS H. WILDER,
Smith College, Northampton, Mass.
- MR BLAIR S. WILLIAMS,
25 Broad st., New York City.
- HON. E. T. WILLIAMS,
American Consul General, Tientsin,
China.
- MR C. C. WILLOUGHBY,*
Peabody Museum, Cambridge, Mass.
- MR J. HOWARD WILSON,
Castine, Maine.
- PROF. N. H. WINCHELL,
University of Minnesota, Minneapolis.
- DR CLARK WISSLER,
American Museum of Natural History,
New York City.
- DR JAMES H. WOODS,
2 Chestnut st., Boston, Mass.
- DR DEAN C. WORCESTER,*
Manila, Philippine Islands.

MR CHRISTOPHER WREN,
Centre st., Plymouth, Pennsylvania.
PROF. G. FREDERICK WRIGHT,
Oberlin, Ohio.

DR JOHN M. WULFING,
3448 Langfellow Boulevard, St. Louis.
REV. JEREMIAH ZIMMERMAN,
107 South ave., Syracuse, N. Y.

DECEASED MEMBERS

PAUL EDMOND BECKWITH,* 1907.
GUSTAV BRÜHL,* 1903.
ALFREDO CHAVERO, 1906.
M. A. CLANCY,* 1902.
WILLIAM E. DODGE,* 1903.
GEORGE J. ENGLEMAN,* 1903.
WESTON FLINT,* 1906.
DANIEL GARCIA, 1907.
JOHN WALTER HASTINGS, 1908.
JOHN H. HINTON,* 1905.
RICHARD HODGSON,* 1905.
WILLIAM JONES, 1909.

WALTER S. LOGAN,* 1906.
OTIS TUFTON MASON,* 1908.
WASHINGTON MATTHEWS,* 1905.
WILLIAM WELLS NEWELL, 1907.
J. W. POWELL,* 1902.
FRANK RUSSELL,* 1903.
HORATIO N. RUST, 1906.
P. S. SPARKMAN, 1907.
ROLAND B. STEINER,* 1906.
EDW. PLEASANTS VALENTINE, 1908.
JOHN HENRY WRIGHT, 1908.



J. W. Putnam

American Anthropologist

NEW SERIES

VOL. 11

APRIL-JUNE, 1909

No. 2

SECRET MEDICINE SOCIETIES OF THE SENECA

By ARTHUR C. PARKER

DURING the last six years the writer has made a detailed field study of the various phases of Iroquois culture, special attention being directed to the rites and ceremonies of the semi-secret orders and societies that yet survive among the so-called pagan Iroquois. It was only after diligent inquiry that the actual existence of these societies was clearly established. The False-face Company and the Secret Medicine Society, better termed The Little Water Company, have been known to ethnologists for some time, but no one has adequately described them or has seemed fully aware of their significance. Likewise certain dances, such as the Bird, the Bear, the Buffalo, the Dark, and the Death dances, have been mentioned. Ceremonies also, such as the Otter Ceremony and the Woman's Song, have been listed, but that back of all these ceremonies there was a society never seems to have occurred to anyone. The Indians do not volunteer information, and when some rite is mentioned they usually call it a dance. Through this subterfuge the existence of these societies has long been concealed, not only from white investigators but from Christian Indians as well, the latter usually professing ignorance of the "pagan practices" of their unprogressive brothers.

Even so close an observer as Lewis H. Morgan says: "The Senecas have lost their Medicine Lodges, which fell out in modern times; but they formerly existed and formed an important part of their religious system. To hold a Medicine Lodge was to observe their highest religious mysteries. They had two such organiza-

tions, one for each phratry, which shows still further the natural connection of the phratry and the religious observances. Very little is now known concerning these lodges or their ceremonies. Each was a brotherhood into which new members were admitted by formal initiation."¹

Morgan's experience is that of most observers, close as their observation may be. The writer, with the assistance of his wife, however, living with the "pagans" and entering fully into their rites, discovered that the "medicine lodges," so far from having become extinct, are still active organizations, exercising a great amount of influence not only over the pagans but also over the nominal Christians.

It was found that the organization and rites of the societies might best be studied among the Seneca, who have preserved their rituals with great fidelity. The Onondaga, although keeping up the form of some, have lost many of the ancient features and look to the Seneca for the correct forms.

The teachings of *Ganiō'dai'io'*, Handsome Lake, the Seneca prophet, revolutionized the religious life of the Iroquois to a large extent, its greatest immediate effect being on the Seneca and Onondaga. Later it greatly influenced the Canadian Iroquois, excepting perhaps the Mohawk about the St. Lawrence. Handsome Lake sought to destroy the ancient folk-ways of the people and to substitute a new system, built of course upon the framework of the old. Finding that he made little headway in his teachings, he sought to destroy the societies and orders that conserved the older religious rites, by proclaiming a revelation from the Creator. The divine decree was a command that all the animal societies hold a final meeting at a certain time, throw tobacco in the ceremonial fires, and dissolve. The heavenly reason for this order, Handsome Lake explained, was that men were unacquainted with the effects of their familiarity with the spirits of the animals, which, although they might bring fortune and healing to the members of the animal's order, might work terrible harm to men and to other animals.²

¹ Morgan, *Ancient Society*, p. 97, ed. 1907.

² The Code of Handsome Lake, Sec. 29, 30. Translated by William Bluesky and A. C. Parker. Manuscript in N. Y. State Library.

The chiefs who were friendly to the prophet and others who were frightened by his threats met in council and proclaimed that all the animal and mystery societies should immediately dissolve, and, by their order, were dissolved and disbanded. This they did without holding a *kayānt'wātgās*, tobacco-throwing ceremony, as directed. The members of the societies, therefore, declared that the order of the council was illegal and not binding, that the sin of disobedience was upon the chiefs and not upon the body of members. The societies consequently continued their rites, although they found it expedient to do so secretly, for they were branded as witches and wizards,¹ and the members of one society at least were executed as sorcerers when they were found practising their arts.

The existence of the societies became doubly veiled. The zealous proselytes of the New Religion denied their legality and even their existence, and the adherents of the old system did not care to express themselves too strongly in the matter of proclaiming their sacred orders still very much alive. The rites of the societies were performed in secret places for a number of years after the advent of the prophet, but as the adherents of the New Religion became more conservative, the societies again gradually entered into public ceremonies held in the council houses on thanksgiving occasions. At such times some of them gave public exhibitions of their rites; others had no public ceremonies whatsoever. With the gradual acceptance of the New Religion by the great majority of the people, the older religious belief was blended into the new. The Iroquois regard it as their Old Testament. The tabooed societies became bolder in their operations, and the new religionists entered their folds with few if any qualms.

It was about this time that their policy seems to have changed, for after some inquiry the writer can find no restriction placed on membership by reason of phratry or clan. Candidates might join any society regardless of clan except the society of Men-who-assist-the-women's-ceremonies, which is not a secret organization. This society consists of two divisions, the membership of a division being determined by phratry. It is purely a benevolent society,

¹ The modern Iroquois call all sorcerers and conjurers, regardless of sex, "witches." They never use the masculine form.

however, and has nothing to do with "medicine." The various societies of all kinds had, and still have, individual lodges, each of which is nominally independent of any jurisdiction save that of its own officers. The leaders, however, confer and keep their rites uniform. At present, especially in the Little Water Company, it is not even necessary for the song-holder, the chief officer, to be a pagan. This company is the only one which can boast of any great Christian membership or of a lodge composed entirely of nominal Christians. This lodge is the Pleasant Valley Lodge of the Little Water Company on the Cattaraugus reservation. Mrs Harriet Maxwell Converse joined this lodge in 1892,¹ afterward joining the pagan lodge at Newtown.

A careful study of the Iroquois societies will lead to the conclusion that most of the societies are of ancient origin and that their rituals have been transmitted with little change for many years. Indeed, that under the circumstances any changes should have been made would be stranger than that none had occurred at all. Most of the rituals are chanted in unison by the entire company of members, and any change in note, syllable, or word would immediately be detected. Rites transmitted by song are more difficult to change than simple recitals where musical rhythm is not correlated with the word. Some of the rituals, moreover, contain archaic words and expressions, and even entire sentences are not understood by the singers.

Each society has a legend by which its origin and peculiar rites are explained. Most of these legends portray the founder of the society as a lost hunter, an outcast orphan, or a venturesome youth curious to know what was farther on. The founder got into strange complications, saw strange or familiar animals engaged in their rites, was discovered, forgiven, adopted, kept a captive, and finally, after long study and many warnings, was sent back to his people to teach them the secrets of the animals and how their favor could be obtained. The secrets were to be preserved by the society which the hero was to found. There are some variations of this abstract, but it covers the general features of most of the legends.

¹ Myths and Legends of the Iroquois, *N. Y. State Museum Bulletin* 125, p. 176.

The study of the societies was commenced by the writer in 1902, and during the years 1905-1906 an almost uninterrupted study was made for the New York State Education Department, and the results deposited in the State Library. Since that time the research has been continued for the New York State Museum. Paraphernalia have been collected, phonograph records have been made of many of the songs and ceremonial speeches, texts have been recorded and translated, legends have been gathered, and some music has already been transcribed. There still remains an enormous amount of work to be done, and it is greatly to be regretted that a multiplicity of duties bars the way for as speedy progress in this work as might be desirable, especially since many of the informants are old people and in ill health.

A brief outline of the various societies is presented in this paper. It is impossible for the sake of brevity to present a fair compend or even a systematic outline. The main features of the less-known organizations and some neglected facts of the few that are better known are mentioned, it being hoped that even such statements may be useful to students of ethnology. The list follows:¹

Niganëga'a' a' oã'no', OR *Ne'Hono'tcino'gã*, THE LITTLE WATER
COMPANY

This society is perhaps the best organized of all the Seneca folk-societies. It holds four meetings each year, but only on three occasions is the night song, *Ganoda*, chanted. To describe adequately the rites of this society would require a small volume. For the purposes of this paper, since the society has been described at greater length elsewhere, only a few notes can be given.

The company is organized to perform the rites thought necessary to preserve the potency of the "secret medicine," *niganëga'a'*, known as the "little-water powder." The meetings, moreover, are social gatherings of the members in which they can renew friendship and smoke away mutual wrongs if any have been committed. It is contrary to the rules to admit members having a quarrel unless they are willing to forgive and forget. Both men and women are

¹ A description of some of these societies was prepared for incorporation in the Fifth Annual Report of the Director of the State Museum, Albany, 1909.

members. Its officers, in order of their importance, are: the song-holder, the chief matron, the watcher of the medicine, feast-makers, invoker, flute-holder, and announcers and sentinels. There are two altars, the Altar of the Fire and the Altar of the Mystery. The ritual consists of three sets of songs describing the various adventures of the founder, known as the Good Hunter. At the close of each section the feast-makers pass bowls of berry-juice, giving each singer a draft from a ladle. In some lodges a pipe is passed. An intermission then follows, during which the members, men and women alike, smoke the native home-grown tobacco. The singing is accompanied by the shaking of gourd rattles, and each member shakes one while he sings. Only purified members are supposed to enter. Unclean men or women, even though members, are debarred. The society has no public ceremony and no dances.



FIG. 22. — Incense tobacco basket used by the Little Water Society.

Only members are supposed to know the precise time and place of meeting. The songs must never be sung outside of the lodge-room, but special meetings are sometimes called for the purpose of instructing novices. The office of song-holder by the Cattaraugus Seneca is hereditary to the name *O'dân'kot*, Sunshine.

The present song holder of the *Ganun'dast* lodge, the pagan lodge at Newtown, Cattaraugus reservation, is a youth who is learning the song, George Pierce, the former *O'dân'kot*, having recently died. Visitors may listen to the songs in an outer room, but are debarred from viewing the "mysteries." Each member, on entering, deposits his medicine-packet on the Altar of the Mystery and places his contribution of tobacco in the corn-husk basket. The tobacco is thrown by the invoker into the fire as he chants his prayer to the Creator, the

Thunder Spirit, and to the Great Darkness. The flute-song is played during the second and third sections. At the close of the ceremony a pig's head is passed, and pieces of the boiled meat are torn from the head with the teeth, the members cawing in imitation of crows. In early times a bear's head was eaten. The food is then distributed, and the meeting or "sitting" is concluded. The ceremony commences at about 11 o'clock P. M. and is adjourned at daybreak. The sun "must not see the rites." The business of the society is all conducted before the ceremony commences: the reports of the officers are given and the treasurer's report read. The paraphernalia of this society consist of the medicine-bundles, the flute, gourd rattles for each singer, the sacred tobacco-basket (fig. 22), and a bark dipper. The necessary furnishings are a table and a fire-place, these being the "altars," and a lamp. The arrangement of a lodge is shown in figure 23. The "medicine" is not used in the ceremonies; it is simply "sung for." Its power is conserved for use by the medicine people in healing ceremonies. The singing of the ritual is conducted in total darkness, the lights being brought in only during the intermissions.

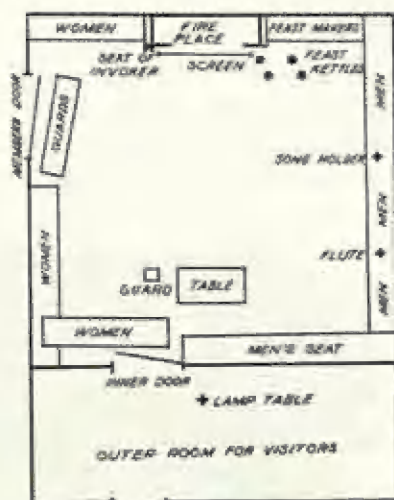


FIG. 23.—Plan of the Little Water Lodge room.

Dewanondisso'daik'ta', PYGMY SOCIETY, THE DARK DANCE CEREMONY

The ritual of this society consists of 102 songs, divided into four sections, as follows: The first section, 15 songs; the second, 23 songs; the third, 30 songs, and the fourth, 34 songs. The order of the ceremony is somewhat like that of the Medicine Company. All the songs are sung in darkness. It is believed that the spirit members of the society come and join in the singing, and their voices are thought to be audible at times.

The water drum and the horn rattle are used in this ceremony for keeping time. There is a brief dance. The Dark Ceremony is designed to appease certain spirits and to procure the good offices of others. Meetings are called at any time for the purpose of appeasing the spirits of certain charms that have become impotent or which may become so, or are called by members and even by non-members who are troubled by certain signs and sounds, such as the drumming of the water fairies or stone throwers, pygmies, who by their signs signify their desire for a ceremony. Non-members become members by asking for the services of the society. The

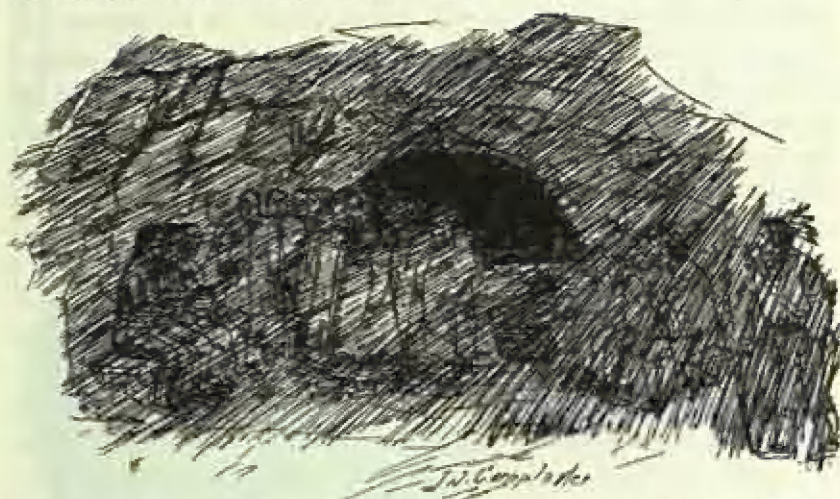


FIG. 24. — Dark Dance Ceremony of the Pygmy Society, or Band of Charm Holders.
(Drawn by Jesse Cornplanter.)

rites are preëminently the religion of the "little folk" whose goodwill is sought by all Indians living under the influence of the *Ongwe'ohwe'ka'*, Indian belief. The Pygmies are thought to be "next to the people" in importance, and to be very powerful beings. They demand proper attention or they will inflict punishment upon those who neglect them. This society, however, "sings for" all the "medicine charms" and all the magic animals. These magic animals are members of the society, and in order of their importance are: *Jo'gã'o*, Elves or Pygmies; *Jodi'gwado'*, the Great Horned Serpent; *Sho'dowik'owa*, the Blue Panther, the herald of

death; *Dewatiowa'is*, the Exploding Wren. Other members, equal in rank, are: *Diatdagwa'*, White Beaver; *O'nowaot'gont*, or *Gane'ontwa'*, the Corn-bug; *Otua'yont*, Sharp-legs; *O'nai'ta*, Little Dry Hand; *Dagwin'noyaent*, Wind Spirit, and *Nia'gwahé*, Great Naked Bear.

These charm-members are called *Ho'teine'gada*. The charms or parts of these members, which the human members keep and sing for, are: none of the first two, because they are very sacred and "use their minds" only for charms; panther's claw; feathers; white beaver's castor; corn-bug dried; bone of sharp-legs; dry hand; hair of the wind, and bones of *Nia'gwahé*. Some of these charms bring evil to the owners, but must not be destroyed under any circumstance. Their evil influence can be warded off only by the ceremonies. The owner or his family appoints someone to "hold the charm" after the first owner's death. Other charms are only for benevolent purposes, but become angry if neglected. Of the evil charms, the sharp bone may be mentioned; and of the good charms the exploding bird's feathers. Most of them are regarded, however, as *of'gont*. The members of this society save their fingernail parings and throw them over cliffs for the Pygmies.

The ceremonies of the societies are always opened with a speech by the invoker. The following speech is that of the Pygmy Society, and in a general way is the pattern of nearly all opening invocations.

Yotdondak'o', Opening Ceremony of the Pygmy Society

We now commence to thank our Creator.

Now we are thankful that we who have assembled here are well.

We are thankful to the Creator for the world and all that is upon it for our benefit.

We thank the Sun and the Moon.

We thank the Creator that so far tonight we are all well.

Now I announce that A B is to be treated.

Now this one, C D, will throw tobacco in the fire.

Now these will lead the singing, E and F.

So I have said.

The "tobacco thrower" advances to the fire, and, seating himself, takes a basket of Indian tobacco and speaks as follows:

Now the smoke rises !
 Receive you this incense !
 You who run in the darkness.
 You know that this one has thought of you
 And throws this tobacco for you.
 Now you are able to cause sickness.
 Now, when first you knew that men-beings were on earth, you said,
 " They are our grandchildren. "
 You promised to be one of the forces for men-beings' help,
 For thereby you would receive offerings of tobacco.
 So now you get tobacco — you, the Pygmies. [*Sprinkles tobacco on the fire.*]
 Now is the time when you have come ;
 You and the member have assembled here tonight.
 Now again you receive tobacco—you, the Pygmies. [*Throws tobacco.*]
 You are the wanderers of the mountains ;
 You have promised to hear us whenever the drum sounds,
 Even as far away as a seven days' journey.
 Now all of you receive tobacco. [*Throws tobacco.*]
 You well know the members of this society,
 So let this¹ cease.
 You are the cause of a person, a member, becoming ill.
 Henceforth give good fortune for she (or he) has fulfilled her duty
 and given you tobacco.
 You love tobacco and we remember it ;
 So also you should remember us.
 Now the drum receives tobacco,
 And the rattle also.
 It is our belief that we have said all,
 So now we hope that you will help us.
 Now these are the words spoken before you all,
 You who are gathered here tonight.
 So now it is done.

Dawando', THE SOCIETY OF OTTERS

This is a band of women organized to propitiate the otters and other water-animals who are supposed to exercise an influence over the health, fortunes, and destinies of men. The otter, which is the

¹ The malific influence causing sickness.

chief of the small water-animals, including the fish, is a powerful medicine-animal, and besides having his own special society is a member of the *Yé'dos*, or *I'dos*, and the *Hono'teino'gā'*.

The Otters may appear at any public thanksgiving, as the Green Corn Dance and the Midwinter Ceremony. After a tobacco-throwing ceremony, *hayānt'wātgas*, the three women officers of the *Dawan'do'* each dip a bucket of the medicine-water from the spring or stream, dipping down with the current, and carry it to the council-house where they sprinkle everyone they meet by dipping long wisps of corn-husk in the water and shaking them at the people. If the women succeed in entering the council-house and sprinkling everyone without hindrance, they go for more water and continue until stopped. The only way in which they may be forced to discontinue their sprinkling is for someone, just before she sprinkles him, to snatch the pail and throw the entire contents over her head. The Otter woman will then say, *Hat'gait, niawé'*!—meaning, "Enough, I thank you!" She will then retire.

The Otters are especially active during the Midwinter Ceremony, and when the water is thrown over their heads it very often freezes, but this is something only to be enjoyed. When possessed with the spirit of the otter, the women are said to be unaware of their actions, and sometimes, when they are particularly zealous, the whistle of the otter is heard. This greatly frightens the people, who regard it as a manifestation of the presence of the "great medicine otter." The women afterward deny having imitated the otter's call, saying that they were possessed of the otter and had no knowledge of what they did.

The Otter Society has no songs and no dances. Its members are organized simply to give thanks to the water-animals and to retain their favor. When one is ungrateful to the water-animals, as a wasteful fisherman, or a hunter who kills muskrats or beaver without asking permission or offering tobacco to their spirits, he becomes strangely ill, so it is believed. The Otters then go to a spring and conduct a ceremony, after which they enter the sick man's lodge and sprinkle him with spring water, hoping thereby to cure him.

I'dos oã'no', SOCIETY OF MYSTIC ANIMALS

The *I'dos* Company is a band of "medicine" people whose object is to preserve and perform the rites thought necessary to keep the continued good-will of the "medicine" animals. According to the traditions of the company, these animals in ancient times entered into a league with them. The animals taught them the ceremonies necessary to please them, and said that, should these be faithfully performed, they would continue to be of service to mankind. They would cure disease, banish pain, displace the causes of disasters in nature, and overcome ill luck.

Every member of the company has an individual song to sing in the ceremonies, and thus the length of the ceremony depends on the number of the members. When a person enters the *I'dos* he is given a gourd rattle and a song. These he must keep with care, not forgetting the song or losing the rattle.

The head singers of the *I'dos* are two men who chant the dance song. This chant relates the marvels that the medicine-man is able to perform, and as they sing he proceeds to do as the song directs. He lifts a red-hot stone from the lodge fire and tosses it like a ball in his naked hands; he demonstrates that he can see through a carved wooden mask having no eye-holes, by finding various things about the lodge; he causes a doll to appear as a living being, and mystifies the company in other ways. It is related that new members sometimes doubt the power of the mystery-man and laugh outright at some of the claims of which he boasts. In such a case he approaches the doll, and though his face be covered by a wooden mask, cuts the string that fastens its skirt. The skirt drops, exposing the legs of the doll. Then the doubting woman laughs, for everyone else is laughing, at the doll she supposes, but shortly she notices that everyone is looking at her, and to her utmost chagrin discovers that her own skirt-string has been cut and that she is covered only by her undergarments. Immediately she stops laughing and never afterward doubts the powers of the medicine-man, who, when he cut the doll's skirt-string by his magic power, cuts her's also.

The *I'dos* is said to have been introduced among the Seneca by the Hurons. The ritual, however, is in Seneca, though some of

the words are not understood. The principal ceremonies are: (a) *Gai'yowe'ogowa*, The sharp point; (b) *Gahadi'yagō*, At the wood's edge; (c) *Gai'dō*, The great *Gai'dō*. Other ceremonies are *O'tō'dō'gwa'*, It is blazing, and *Tci'gwa'wa*, The other way around. During ceremonies b and c only individual members sing. The chief of the society is said to be a man who is able to see through a wooden mask which has no eye-openings. By his magic power he is able to discover hidden things previously concealed by



FIG. 25.—Masks used by the *I'idos* Company. 1, Dual-spirit's mask. 2, Witch's mask. 3, Conjurer's mask.

the members, probably by some particular member. He discovers the ceremonial, no matter where hidden, and juggles with a hot stone drawn from the fire. When the ceremonies are finished the members feast on a pig's head. In early times a deer's head was used. As do the members of the Medicine Lodge upon such an occasion, the members tear the meat from the head with their teeth. The ceremonies of the society are now considered an efficacious

treatment for fevers and skin diseases. The rites are supposed to be strictly secret.

The writer has transcribed the entire text of the *I'dos* ritual in Seneca and has translated it. Three masks are used in the rites — the Conjuror's mask, the Witch mask, and the Dual-spirit's mask. These masks are never used in the rites of the False-face Company, and differ from them in that they have no metal eyes (see fig. 25). A flash-light picture of a corner of the *I'dos* lodge was made by the writer in January, 1909, but the session of the lodge was not one of the "regular" ones. This picture is shown in figure 26.



FIG. 26. — *I'dos oâ'no'* (Society of Mystic Animals) in session.

Sha'dotge'a, THE EAGLE SOCIETY

The ritual of the Eagle Society consists of ten songs and a dance. The song is called *Gani'gwaê oâ'no'*. Every member participating in the ceremony paints on each cheek a round red spot. No one but members may engage in its ceremonies, even though these be performed publicly. The Eagle Society's ceremony is re-

garded as most sacred, in this respect next to the Great Feather Dance, *O'stowā'gowa*. It is believed that the society holds in its songs the most potent charms known. It is said that the dying, especially those afflicted with wasting diseases, and old people, have been completely restored by its ceremonies. This is because the Dew Eagle, to which the society is dedicated, is the reviver of wilting things.¹ The membership is divided into two classes by phratry-



FIG. 27. — The Lodge Dance of the Eagles. (From a drawing by Jesse Cornplanter.)

ship. A person may become a member by dreaming such a thing necessary, or by receiving the rites of the society in case of illness. Special costumes are worn in the ceremonies. In the dance the members divide and stand opposite each other according to phratry, the animals opposite the birds. Two dancers from each phratry are chosen, and one singer from each. The dancers assume a squatting posture and imitate the motions of birds (fig. 27). The physical exertion is intense and requires constant interruption. The dancers and singers

¹ The Dew Eagle refreshed the scalp of the Good Hunter by plucking a feather from his breast and sprinkling the scalp with dew from the lake in the hollow of its back.

continue to dance and sing until completely exhausted, unless someone strikes the signal pole and makes a speech. The dancers then retire to their benches until the speech ends, when the singers take up their song and the dance is continued. After his speech, the speaker, who may be any member, presents the dancers for whom he speaks with a gift of money, tobacco, or bread; but the old custom was to give only such things as birds liked for food. The speeches are usually in praise of one's own clan and in derision of the opposite phratry. At the close, the speakers all apologize for their clannish zeal, and say, as if everyone did not know it, that their jibes were intended only as jests. The dancers each hold in their left hands a calumet fan, made by suspending six heron or four eagle feathers parallel and horizontally from a rod or reed. In their right hands they hold small gourd rattles with wooden handles, or small bark rattles made of a folded strip of hickory bark patterned after the larger False-face bark rattles. The signal pole and the striking stick are spirally striped with red paint. After the ceremony, when held in a private lodge, the members feast on a pig's head; but this is a modern substitute for a bear's or a deer's head, though crows' heads once were eaten also.

Nia'gwai' oā'no', THE BEAR SOCIETY

The ritual of the Bear Society consists of twenty songs and a dance. During the intermissions in the dance, that is, between songs, the participants eat berries from a pan on the dance-bench, or, in winter, eat honey, taking portions of the comb and eating it as they walk about the bench. The ceremony is opened by making a tobacco-offering to the spirits of the bears, during which the chief Bear-man makes an invocation. The high officer of the society, however, is a woman. The symbol of membership is a black streak drawn diagonally across the right cheek. The object of the society is to cure the diseases of its members and candidates by chanting and dancing. The ceremony is believed to be a remedy for fevers and rheumatism, as well as to bring good fortune. In a healing ceremony the chief woman blows on the head of the patient. After a ceremony the members carry home with them pails of bear-

pudding, a sweetened corn pudding mixed with sunflower oil. The Bears use the water-drum and horn rattles. All Seneca dances are counter-clockwise.



FIG. 28. — Horn rattles once used by the Tonawanda-Seneca Bear Society.

Deg'ya' go' oā'no', THE BUFFALO SOCIETY

The ritual of this society consists of a number of songs which relate the story of the origin of the order. After a ceremony in which there is a dance, the members depart, carrying with them the buffalo-pudding. The dancers imitate the action of buffalo when stamping off flies, and the pudding is supposed to be of the consistency of the mud in which the buffalo stamp. When it is eaten it acts as a charm that "stamps off" disease or ill-fortune. The Buffalos use the water-drum and horn rattles.

O'gi'we od'ne', CHANTERS FOR THE DEAD

The *O'gi'we* Ceremony is called for by any member who dreams of the restless spirit of some former member, relative, or friend. At the Ceremony the set of songs is sung, the large water-drum beaten, and a feast indulged in. The food is supposed to satisfy the hungry



FIG. 29. — Council-house Dance of the Buffalo Society. (Drawn by Jesse Cornplanter.)

ghosts that for some reason are "earth-bound," as spiritists might express it. The *O'gi'we* Ceremony must not be confused with the Death Feast Ceremony, which is a clan affair. The diviner of the *O'gi'we* people is able to identify the unknown spirit which may be troubling the dreams of a member. The sickness and ill-fortune caused by evil ghosts may be dispelled by the ceremony. The chief officer is a woman.

Deswadenyationdottu', THE WOMAN'S SOCIETY

This society preserves the ritual by which good fortune and health are obtained for women. The singers, fourteen in number at Cattaraugus, are all men. During their singing the women dance. The office of chief singer is hereditary. The women join in a chorus as the men sing. Horn rattles and water-drums are used.

Towii'sas, SISTERS OF THE *Dio'hé'ko*

This society is composed of a body of women whose special duty is to offer thanks to the spirits of the corn, the beans, and the squashes, *Dio'hé'ko* (these sustain our lives). By their ceremonies of thanksgiving the *Towii'sas* propitiate the spirits of growth, and people are assured of a good harvest. The *Towii'sas* have a ceremonial song and a march, but no dances. The legend of the society relates that the entire band of *Towii'sas*, in the latter part of the seventeenth century, was captured by the Cherokee and carried down the Ohio river. Thereafter two men were admitted as escorts in their march through the woods. At the closing of the ceremony the head-woman chants the *Dio'hé'ko* song as she leads her band about a kettle of corn pudding. She carries an armful of corn on the cob; in her right hand she holds some loose beans, and in her left some squash seeds, the emblems of fertility. The *Towii'sas* hold one ceremony each year, unless some calamity threatens the harvest. The rattle of this society is made of a land tortoise (box-turtle) shell. These are often found in graves, but their exact use in the Iroquois territory has not generally been known to archeologists.



FIG. 30. — Tortoise-shell rattle from Seneca grave. Such rattles were used by the *Towii'sas* Company.

Jadigo'sa shé'e', THE FALSE-FACE COMPANY

This organization is one of the better-known societies of the Iroquois, and its rites have often been described, though not always correctly interpreted. There are three divisions of the False-faces, and four classes of masks — doorkeeper or doctor masks, dancing masks, beggar masks, and secret masks. The beggar and thief's masks form no part of the paraphernalia of the true society, and the secret masks are never used in public ceremonies in the council-house at the midwinter ceremony. The False-face ceremonies have

been well described, though by no means exhaustively, by Morgan¹ and Boyle.² The main features are generally known.

The paraphernalia of this society consist of the masks previously mentioned, turtle-shell rattles (snapping-turtles only), hickory-bark rattles, head throws, a leader's pole upon which is fastened a small husk face, a small wooden false-face, and a small turtle rattle, and a tobacco basket. Masks are shown in the accompanying illustrations.



FIG. 31. — Typical False-face Company masks, from the collection of Mr Joseph Keppler, New York City.

There are two Seneca legends setting forth the origin of the False-faces, and three with the Mohawk story. These stories, however, explain the origin of different classes of masks. Each mask has a name. One story relates that the False-faces originated with the Stone Giants. However this may be, the writer obtained in 1905,

¹Morgan, Fifth Annual Report N. Y. State Cabinet (Museum), 1852, p. 98.

²Boyle, Archaeological Report, Provincial Museum, Toronto, 1898, p. 157.



MASKS OF THE SECRET FALSE-FACE COMPANY

1. The Traitor Mask. 2. The Stone Giant Mask. 3. Beggar Mask (this is not used in any Lodge ceremony).

from a woman claiming to be the keeper of the secret masks, a mask representing the Stone Giant's face. With it was a mask made of wood, over which was stretched a rabbit-skin stained with blood. This mask was supposed to represent the face of a traitor as he would look when drowned for his infamy. Chief Delos Kettle said it was used to cure venereal diseases. These masks¹ are shown in plate VIII. They are not typical masks by any means.

There is some dispute as to the antiquity of the False-face Company. Dr Beauchamp, in his *History of the Iroquois*,² says it is comparatively recent. From a study of the Seneca society, however, the writer is inclined to believe that it is quite old with them, although it may be more recent with the other Iroquois. Early explorers certainly could not have seen everything of Iroquois cul-



FIG. 32. — Blowing mask pipe from Erie county, New York. Collected for the Peabody Museum, Cambridge, by Harrington and Parker in 1903. A similar pipe is in the State Museum at Albany.

ture, especially some of the secret things, and their lack of description may be regarded as negative testimony rather than as positive evidence of the non-existence of certain features which later students have found. It is quite possible that the author of "Van Curler's"

¹ The pictures of these masks were first reproduced in the Second Annual Report of the Director of the New York State Museum, 1906.

² Bulletin 78, New York State Museum, p. 141.

Journal of 1634-'35 mentions a false-face when he writes: "This chief showed me his idol; it was a head with the teeth sticking out; it was dressed in red cloth.



FIG. 33.— Turtle-shell rattle of the False-face Company.

Others have a snake, a turtle, a swan, a crane, a pigeon for their idols. . . ." The Seneca at present drape their false-faces when they hang them up for safe keeping, and use them as well as turtle and snake charms as bringers of good fortune. Some pipes from seventeenth-century graves seem to represent blowing masks. Mr M. R. Harrington and the writer found one in 1903 while excavating a seventeenth-century site, since learned to be of Seneca occupancy, on Cattaraugus creek, near Irving (fig. 32). The counterpart of this pipe was found by R. M. Peck on the Warren site, near West Bloomfield, N. Y. The Indians say it is a False-face blowing ashes, and such it may represent. Mr Harrington, and the writer as well, have found what may be false-face eye-disks, as well as turtle-shell rattles, in Seneca and Erie graves.

The principal False-face ceremonies are: *Ganoi' iowi*, Marching Song; *Hodigoshas' ga*, Doctors' Dance, and *Yea'se' dadi' yas*, Door-keepers' Dance.

Gaji' sa sho'o', THE HUSK-FACES.

This society seems rather loosely organized among the Seneca, but its chief members act as water doctors. They endeavor to cure certain diseases by spraying and sprinkling water on the patients. Two Husk-faces are admitted with the False-faces in their midwin-



THE GREAT WIND MASK, A MEDICINE OR DOCTOR MASK OF THE FALSE-FACE COMPANY

ter long-house ceremony, and act as door-openers. As a company they also have a ceremony in which the Grandfather's Dance is featured. The grandfather is attired in rags, and, holding a cane stationary, dances in a circle about it, using the cane as a pivot. The company dance is one in which all the members participate. Non-members may partake of the medicine influence of the ceremony by joining in the dance at the end of the line when the ceremony is performed in the council-house at the mid-winter festival.

That the foregoing so-called societies are in fact organizations, and that their rites are not merely open ceremonies in which anyone may engage, is apparent from the following considerations:

1. The organizations have permanent officers for the various parts of their rites.

2. They have executive officers.

3. They have certain objects and stand for specific purposes.

4. They have stable and unchangeable rituals.

5. Those who have not undergone some form of an initiatory rite are not allowed to enter into their ceremonies.

6. They have legends by which the origin and objects of the rites are explained.

7. It is not permissible to recite the rituals or to chant any of the songs outside of the lodge to anyone who has not been inducted into the society.



FIG. 34. — False-face Doctor rubbing his rattle on a pine stump. The mask is a typical "Doctor face." (Drawn from a photograph.)

Some of the societies have other features, such as stated meetings and officers' reports, but the foregoing characteristics apply to all the Seneca secret or semi-secret ceremonies, and entitle them to the name of *societies*.

When an Indian is afflicted with some disorder which cannot be identified by the native herb doctors, the relatives of the patient consult a clairvoyant, who names the ceremony, one of those above described, believed to be efficacious in treating the ailment. Some-



FIG. 35.— Two varieties of husk masks. The larger mask is said to be the older type; the smaller is used by the Seneca at Allegany. (New York State Museum collection.)

times several ceremonies are necessary, and as a final resort a witch-doctor is called upon.

As to the influence of these organizations on the people, while it must be confessed that they foster some "superstitions" inconsistent with the modern folk-ways of civilized society, they serve more than any other means to conserve the national life of the people. The strongest body of Iroquois in New York today are the

two bands or divisions of the Seneca, and the Seneca have the largest number of "pagans." They are perhaps likewise the most patriotic, and struggle with greater energy to retain their tribal organization and national identity.

The customs of these adherents of the old Iroquois religion react on and influence the entire body of the people, "pagans" and Christians alike.

NEW YORK STATE MUSEUM,
ALBANY

ABORIGINAL REMAINS IN THE MIDDLE CHATTAHOOCHEE VALLEY OF ALABAMA AND GEORGIA¹

By P. A. BRANNON

IN Lee and Russell counties, Alabama, and in Harris, Muscogee, and Chattahoochee counties, Georgia, are to be found many sites of aboriginal occupancy. The sites in the several counties named that have been investigated by the writer since he commenced to make occasional trips thereto in 1905 are the following: The mound and cemetery at the mouth of Wacoochee (Soap) creek, and the village site two miles below, in Lee county; the mound and cemetery at Abercrombie's Landing, in Russell county; the mound and cemetery at Kyle's Bend, and the flint quarry two miles above Columbus, Georgia, in Muscogee county; the two mounds and probable village site on the Woolfolk plantation, in Chattahoochee county; and the village sites in Harris county (see map).

The mounds, with the exception of the one at the Kyle site, are domiciliary. The Kyle site is a burial mound surrounded by a cemetery of later burials.

This locality was the home of the Lower Creek Indians, and several of their larger settlements, including their last chief town, were situated at or near several of the sites to be described. Some of the burials (with the notable exception of those of the Wacoochee mound), as shown by the accompanying glass beads and brass rings, indicate that the occupants came in contact with early European visitors.

Judging by the objects taken from the several sites, examined by the writer, it is believed that, although the territory covered is confined within a radius of thirty miles, the aboriginal occupants were of different tribes, and did not have a common locality for obtain-

¹ Presented at a meeting of the Alabama Anthropological Society, held in Montgomery, August 5, 1909.



FIG. 36. — Map of a part of Chattahoochee river, showing location of mounds.

ing the materials of which their implements and ornaments are made; indeed, to one familiar with the archeology of this section, the objects from the various sites are clearly distinguishable one from another.

The source of the material from which the stone objects from the lower river sites were made has not yet been determined, but at the upper sites the inhabitants had only to go to the bed of the stream a few yards away.

THE WACOOCHEE OR SOAP CREEK SITE

About five hundred yards above the mouth of Wacoochee creek, and between that stream and Chattahoochee river, are the remains of a mound about 50 feet in diameter and 2 or 3 feet high. To the north and east, and nearer the river, is a cemetery. The mound



FIG. 37. — Wacoochee Creek mound, Lee county, Alabama.

was built largely of marl, some of the stones weighing two hundred pounds or more, similar to those in the shoals of the river about 75 yards away, from which these doubtless were dragged.

The mound proper is now practically destroyed, a party of

"hidden-treasure" hunters having opened it several years ago; and as the river during each freshet season overflows the cemetery, washing in great quantities of sand, it is now in some places two or three feet beneath the present surface.

No objects have been recovered from the mound itself, but from the bank of a large slough bordering the cemetery several fine earthenware pots and one large pipe have been taken.

Dr Lupton, of the Agricultural and Mechanical College of Alabama, visited this site about the year 1882 and obtained some objects, including a fine pipe.

While potsherds and other debris are met with here, no flint chips are seen. Numerous small stone-heaps have been found scattered over the cemetery where it is not too deeply covered with sand, and throughout the wooded tract north of the mound for a distance of 150 yards. The writer has opened numbers of these cairns, in some cases using a rod to the depth of two and a half to three feet, but nothing was found except stones that had been exposed to fire, some charcoal, and occasional fragments of charred bones which are probably not human. Some very large stone beads have been taken from the cemetery, but no shell objects have been seen.

On an island opposite the mouth of Soap creek, and on the river bank about two miles below, are evidences of former aboriginal occupancy, among the objects found being pots, mortars, and disks, mostly crude in form and execution, and many flint and quartz chips. The cemetery referred to was probably used by the inhabitants of the towns situated below.

THE ABERCROMBIE SITE

On the Fitzgerald plantation, at Abercrombie's Landing, in Russell county, Alabama, eight miles and a half below Columbus, Georgia, is a mound 75 feet in diameter and 15 feet high. It is 50 yards from the bank of the river and is surrounded by a cemetery. Situated as it is on a long bend of the river and commanding a fine view both up and down stream, it evidently served as an observation as well as a domiciliary site (fig. 38).

Evidences of aboriginal occupancy are more pronounced here than at any other point in the Chattahoochee valley; indeed, hav-

ing been under cultivation for a number of years, the cemetery is covered with debris. Mr Clarence B. Moore says that the debris from aboriginal occupancy was more thickly scattered here than at any other point he had ever visited.¹

Much of this debris consists of beautiful shell-tempered pottery fragments. Either the site was occupied for a long period or great numbers of vessels were buried here, though with the exception of



FIG. 38. — Fitzgerald mound, Abercrombie Landing, Russell county, Alabama, 1905.

three small gray shell-tempered pots (fig. 39) and a large black one in the writer's collection, no whole vessels have been unearthed.

Both flexed and extended burials are encountered, and as cultivation extends deeper and deeper with each succeeding year, numbers of objects are continually thrown out, such as stone and pottery disks, hammers, celts, paint-pots, and ornaments of both stone and shell; in fact, much attention seems to have been given by the inhabitants to ornamentation, as with nearly every burial uncovered

¹ Mounds of the Chattahoochee and Flint Rivers, *Jour. Acad. Nat. Sci. Phila.*, XIII, 449.

are found beads, gorgets, and other objects of adornment. The gorgets are chiefly of shell, and show no unusual characteristics, though one in the writer's collection (fig. 40) has three distinct



FIG. 39. — Pottery from the Fitzgerald mound, 1906.

pairs of broken-out suspension holes. In the collection also are a few small ornamented beads.

Although at a distance exceeding 300 miles from the coast,

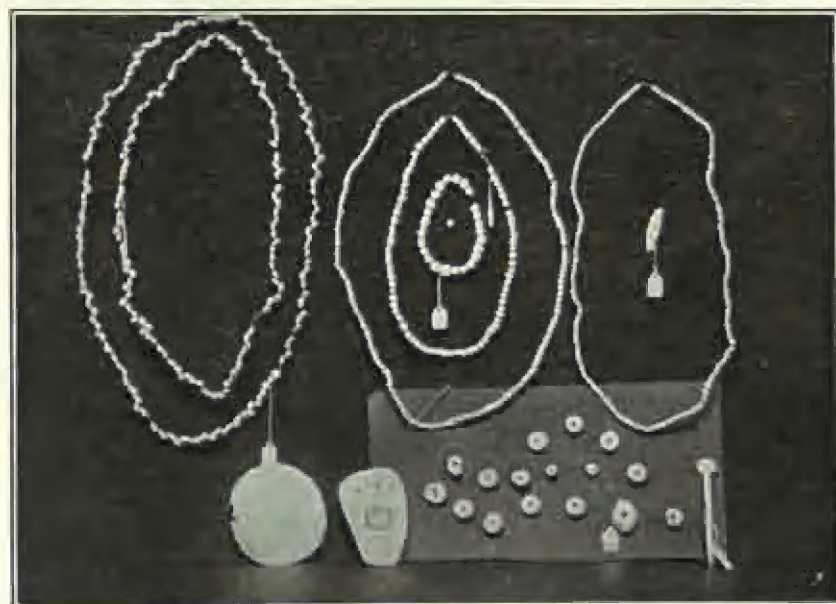


FIG. 40. — Beads, gorgets, etc., from the Fitzgerald mound, 1905-1906.

numbers of beads from the Abercrombie site consist of small pierced sea-shells (*Marginella apicena*¹), as shown in figure 40.

¹ Clarence R. Moore, *Mounds of Chattahoochee and Flint Rivers*, p. 450.

The shell used in tempering the earthenware is that of the common river mussel.

Gorgetts and beads of stone are occasionally met, and in the

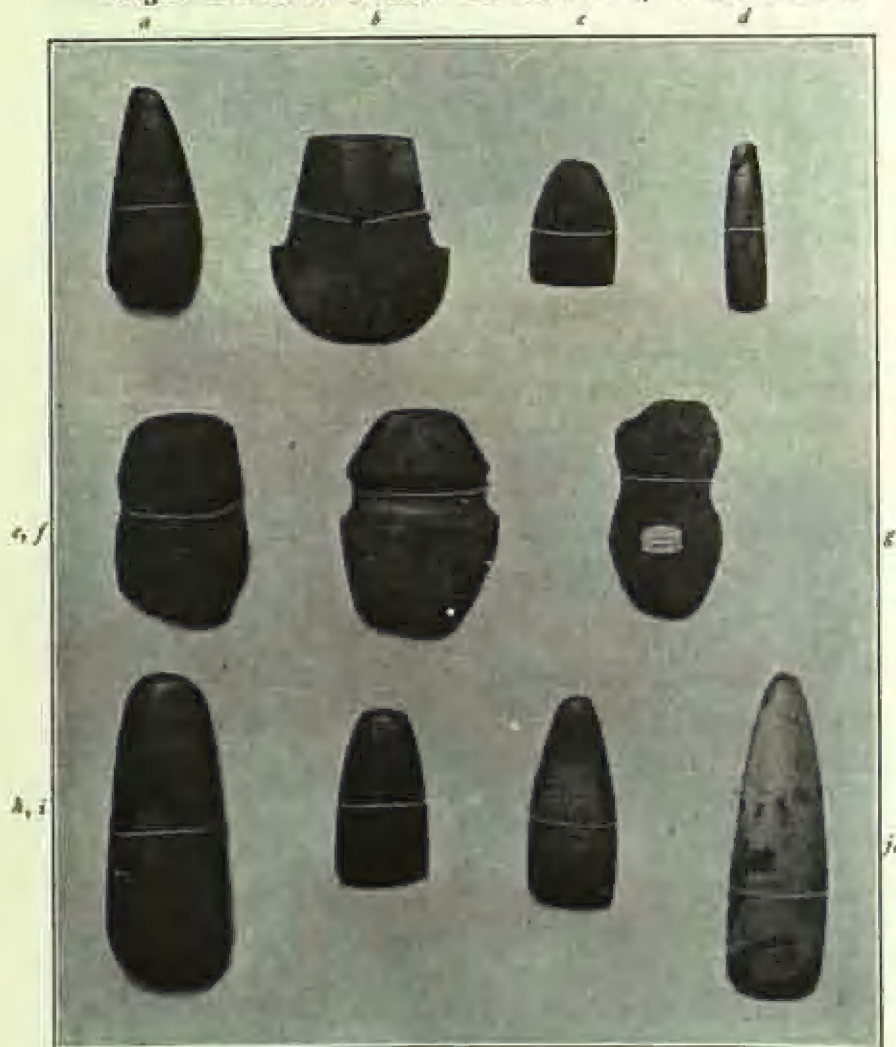


FIG. 41. — Stone objects from the Fitzgerald mound, Russell county, Alabama, 1905-1908.

collection of the late George B. McKnight, of Columbus, Georgia, now owned by Dr H. M. Whelpley of St Louis, are some white

and black striped stone beads from here, some measuring nearly half an inch in diameter, and more than a hundred of them having been found with one burial.

Pierced triangular and oval gorgets have been found. One of the latter in the writer's collection shows nearly an inch of core (fig. 43, center), indicating that the boring had been done with a reed.

Numbers of paint-pots have been recovered from the Aber-



FIG. 42. — "Hoe-shaped implement," Fitzgerald mound, 1905.

crombie site. Many fine celts and chisels have been found also, but with the exception of the three grooved axes in the collection of the writer, no implements of this kind are known to have been found elsewhere in this locality. The fine specimen shown in figure 41, *f*, was unearthed here in 1906. While it is of the prevailing color and possesses the general characteristics of the stone objects from the Chattahoochee region, it is the only one of its kind thus far found.

In the spring of 1905 I took from a flexed burial in the Aber-

crombie cemetery a very fine "hoe-shaped implement" (fig. 42), along with five thousand shell, bone, stone, and glass beads. The glass beads, 75 or 100 in number, and blue, split in halves on exposure to the atmosphere. The hoe-shaped implement shows no evidence of usage, and is highly polished, as are most of the objects of this kind found at the Abercrombie and Kyle sites.

The collection of the writer contains several hundred finely made arrow and spear heads from this locality. In no part of the valley are found so many earthenware disks, many of which are perfectly formed from decorated potsherds.

One of the most interesting objects from the Abercrombie site is a "hammer-pipe" of white quartz, highly polished inside the bowl and around the base. The object is round, about four inches high, nicely grooved, and although perfectly hammer-shaped, it is

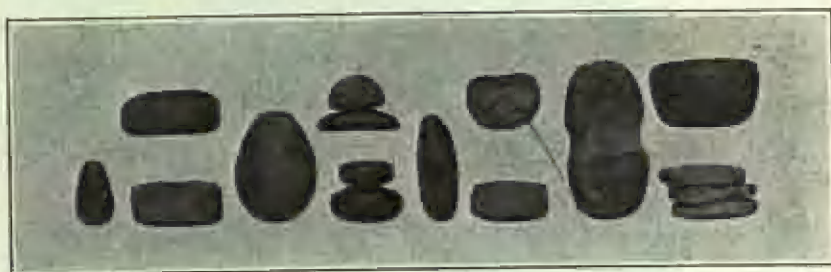


FIG. 43. — Stone objects from the Fitzgerald mound.

at the same time clearly a pipe. With this exception the site is lacking in stone pipes, and very few of pottery have been found.

Mr Clarence B. Moore believes the Abercrombie mound antedates the cemetery surrounding it,¹ and in this opinion I wholly concur.

At the flint quarry north of Columbus, about eighteen years ago Mr McKnight found a very fine "spade-shaped implement." It is about fourteen inches in length, is highly polished and black in color, with a round handle, and a flat wedge-shaped blade about two inches and a half wide at the handle end. The implement does not show evidence of use. Excepting this one, no such

¹ Mounds of the Chattahoochee and Flint Rivers, p. 450.

implements are found in this section, and the writer does not recall ever having seen another from any point visited in Alabama and central Georgia. Many unfinished objects of flint are still found here.

The locality of the two mounds on the Woolfolk plantation in Chattahoochee county, Georgia, has been under cultivation for a number of years, the mounds having been practically destroyed. Some debris still remains, and a number of stone celts and disks, some beads, and a pipe or two have been obtained here. This is very probably the site of old Cussetah.

Two very handsome discoidals of about equal size have been found in this section, one from Muscogee county, two miles and a half from the river, the other (fig. 44) from the northern part of Harris county. The former is of ferruginous quartz, and is not quite so fine as the one from Harris county.

THE KYLE MOUND

On the old Woolfolk plantation in Muscogee county, Georgia, at Kyle's Bend, is the remnant of a mound back of which lies a cemetery. Situated as it was on the brink of a bluff, the river at high-water periods has eaten into the mound until only a vestige of the originally large tumulus remains. In 1888, when the river began to wash into it, the mound was about 25 feet high and more than 50 feet in diameter, with a flattened top. Now practically nothing remains.

This is one of the mounds of Georgia spoken of by Charles C. Jones¹ as observation and refuge points, but later developments have shown that it was also a burial mound, and indeed one of the richest in burials in the entire South. Situated on a sharp bend, it has been surrounded by the river at high-water periods for a number of years, and it was very probably used in later aboriginal times as a place of refuge.

Although most of the contents of this mound were washed into the river and carried away, a great many objects were procured by the late George B. McKnight, of Columbus, Georgia, and F. W. Miller, now of New Jersey. These gentlemen made a number of

¹ *Antiquities of the Southern Indians*, p. 152.

visits to the site, and their large collections consist mainly of these objects, hundreds of which the writer has studied. Many of the specimens exhibit characteristics distinct from those of other localities. The celts, axes, and other stone objects are nearly always black and highly polished, and are of superior workmanship. The



FIG. 44. — "Discoidal," Harris county, Georgia, about 1880. Diameter $5\frac{1}{2}$ inches. (In the collection of U. H. Layfield, Chipley, Ga.)

earthenware varies in color and composition, and is only sparingly decorated.

The site was extremely rich in beads and other ornaments, in one instance 16,000 being found with a single burial. While the beads here, as at the Fitzgerald mound, are mostly of shell and bone, numbers of others of white and yellow quartz, and several

dozens of amethyst have been found. The McKnight collection contains an amethyst bead nearly an inch in diameter, with a hole through the center in which one can easily insert a little finger.

Numbers of hair-pins, tubes, and gorgets of shell, and many tablets and disks of stone have been obtained here.

Among the most interesting of the objects from this site are two disk-like objects of grayish brown, untempered, hard-burned earthenware with a slightly concave surface and without ornamentation of any kind. Mr Clarence B. Moore, in a letter to the writer, expresses the belief that such objects belong to the palette class.

By far the most interesting of the mound's contents are the pottery utensils. While most of the entire vessels that have been recovered are small, a dozen or more large ones have been unearthed. One of the latter deserves special mention. It is of brown clay, burned black and not ornamented. It is not provided with legs, and judging by the small round mouth it was probably designed for carrying water. These features are characteristic of the vessels from the Kyle site, and, unlike pottery from the Abercrombie site, the vessels have no effigy handles or spouts. Long-necked water-bottles are the most common pottery forms. The ware is nearly always black, and while numbers of vessels are polished, none is shell-tempered.

Three fine "hoe-shaped implements" have been procured here,¹ but none of them shows evidence of use.

Though a few pipes have been recovered, they are not of unusual form.

Surrounding the Kyle mound is a cemetery of recent burials, in which numbers of brass rings have been found.

CONCLUSION

There seems to be no doubt that of the aboriginal sites herein mentioned the Kyle site was the last one occupied, and while contact between its inhabitants and early Europeans affected the potter's art disadvantageously, the art of implement-making does not

¹ Compare Clarence B. Moore, The So-called "Hoe-shaped" Implement, *American Anthropologist*, v, 498-502, July-September, 1903.

seem to have been similarly affected, although it is possible that these implements may antedate the pottery.

The art remains from the Kyle mound show workmanship superior to that observed in the other sites described.

The cemetery at none of the sites appears to be so old as the adjacent mound.

Hawkins¹ in 1790 reported a large conical mound near Cowetah. The Abercrombie mound is probably the one referred to, as its situation approximates the site of Upper Cowetah in Hawkins' time.

No early reference is made to a Creek town above the "falls of the Chattahoochee" that corresponds to the Wacoochee site, hence the latter was probably abandoned before the arrival of the first white settlers. The crudeness of the few objects found at Wacoochee is also suggestive of the antiquity of that site.

In all likelihood the Wacoochee mound was the first of the several sites to be occupied, and probably the mound at Abercrombie was constructed at about the same time; next apparently followed the occupancy of the Woolfolk mound and the use of the Abercrombie cemetery; then the erection of the Kyle mound, and, finally, the use of the cemetery near that site.

MONTGOMERY, ALABAMA

¹ Sketch of Creek Country, 58, 1843.

A REMARKABLE CEREMONIAL VESSEL FROM
CHOLULA, MEXICO

By CARL LUMHOLTZ

SOME years ago my attention was drawn to an unusual example of ancient Mexican pottery in possession of Mrs F. Edwin Elwell, wife of the well known sculptor of New York. She graciously placed the valuable jar at my disposal, and on my recom-



FIG. 45. — Ceremonial vessel from Cholula.

mendation presented it to the American Museum of Natural History, New York, where it is to-day.

During a visit in 1891 to the so-called pyramid of Cholula, in the state of Puebla, Mexico, Mrs Elwell bought the vessel from a Mexican woman who carried it under her arm filled with trinkets which she was selling. Two years previously the nephew of the woman had dug the vase out of the pyramid and presented it to her. At first she was unwilling to part with it, as she needed it for use as a receptacle, but the offer of fifty cents in Mexican currency, which would enable the owner to buy several baskets equally good for her purpose, made Mrs Elwell the owner of this handsome object of antiquity.



FIG. 46. — Two upper bands of the decorative design.

The jar is probably the largest known of its kind, and undoubtedly the handsomest in decorative design. The rim, unfortunately, is broken. The height of the vase in its present condition is 10.1 inches (25.6 cm.), its greatest circumference 31.5 inches (80 cm.). Its color is bright Venetian red, with decoration in black; the outlines of the designs are incised. The vessel is thick and somewhat heavy, but it is very fine in texture, and the surface is highly polished. The six handles are a prominent feature.

Dr Eduard Seler, in *Gesammelte Abhandlungen zur Amerikanischen Sprach- und Altertumskunde* (11, 300), describes and illustrates two Cholula vases. Mr A. F. Bandelier, in his *Report of an Archaeological Tour in Mexico in 1881*, gives an exhaustive description of Cholula and its vicinity. Here was the center of the Quetzalcohuatl cult. Cholula was a city governed by the priests. According to Sr D. Francisco del Paso y Troncoso the Cholultecos (Nahua) were a small nation constituted under the form of a theocratic republic independent of the Mexican empire and adjoining the nations of Huexotzinco and Tlaxcala. Its territorial extent was very limited.¹

The decorative designs of the vase are significant, the main decoration consisting of a series of plumed serpents, representing Quetzalcohuatl. The lower band of the decoration recalls the Mitla grecques, and may signify serpents and cloud terraces. A series of alternating figures forms the upper decorative band. These are of two kinds, of which one appears like a highly conventionalized butterfly design, while the other, according to Prof. M. H. Saville, may represent a highly conventionalized chalchihuite, as this sacred green stone is always associated with Quetzalcohuatl. The typical Cholula pottery is pale yellow in tone, but the vessel in question resembles in color and incised decoration a class of pottery found in large quantities in certain localities in the valley of Mexico.

The decorative bells that may be observed around the upper part of the vase indicate its ritualistic character, and the handles may have been used either as a means for attaching a skin drum-head or for suspending ceremonial ornaments or objects of sacrifice.

NEW YORK CITY

FIG. 47. — Lower band of the decorative design.



¹ Catálogo del los Objetos que presenta la Republica de México en la Exposición Histórico-Americana de Madrid, Madrid, 1892.

A RECONNAISSANCE TRIP IN WESTERN TEXAS

By CHARLES PEABODY

THE counties of Texas west of the Pecos river all contain mountains: they are found in the southwestern parts of Reeves, Pecos, and Terrell counties, and widely distributed throughout El Paso, Jeff Davis, Presidio, and Brewster counties, the area being about thirty thousand square miles. From the point of view of science, business, or pleasure, the region is little known, and it is largely on that account that Mrs Peabody and myself selected it for a fortnight's camping trip. The route occupied from April 6 to April 23, 1909, and as traversed equals somewhat more than three hundred miles. The course was from Pecos south-southwest through Fort Davis, Marfa, Shafter, and Presidio to Ojinaga, Mexico, thence via Alamito creek back to Marfa, and east to Alpine (see the map, fig. 48). Of the seventeen nights, thirteen were spent in the wagon, two at the hotel in Fort Davis, one in like manner at Shafter, and one in a ruined rancheria near Alamito as a refuge from a dust-storm.

For the sake of other explorers the equipment may be described. On the suggestion of Dr Edgar L. Hewett, Director of American Archæology under the Archæological Institute of America, a Studebaker four-spring mountain wagon (type 141-N) was procured, and by his kind supervision certain alterations were effected, viz.: the dasher removed and the front seat moved forward to the end of the body, a "foot-board front" put on, the other seats removed, a mess-box attached under the back end of the body, dropping four inches below the axle, with a door hinged at the bottom to remain level when open. Resting on the supports of the cover a wire mattress was inserted, lying about four inches above the level of the side-boards.

On and in the wagon were stored and carried provisions, a somewhat scanty outfit of dishes and utensils, a camera, a steamer trunk, traveling-bags, blankets, quilts, a five-gallon keg of water, the



FIG. 48.



FIG. 49. —View near Shafter, Texas.

driver's kit, and feed up to a hundred and fifty pounds for the stock. There was also room for one or more of the party to lie down. Two mules for pulling were generally sufficient, with one horse for riding purposes; these were furnished by Wellington Glaze of Pecos, who drove throughout the journey, attended to the animals, laid the fires, and made himself entirely useful. The cooking was done by Mrs Peabody.

In the sandy roads of the Alamito arroyo two extra mules were found necessary; as a rule a single pair is sufficient. A lighter wagon (i. e. less than one thousand and fifty pounds) would have been better, and as ours was "narrow tread" (four feet six inches), pulling was vastly harder and riding more uncomfortable. The tread standard to a region should be ascertained before laying down a wagon.

It is perhaps well to emphasize these points, for this method of camping is altogether the best for a region like western Texas.

Owing to the aridity, a large minimum of supplies, water, and fodder must be carried, hence the camping paraphernalia should be reduced as much as possible; if tents are taken, more animals are

required, with more men and provisions. Besides, the nature of the soil and the lack of wood make tent-pitching difficult. Men can easily travel and sleep on the ground, but with women shelter is necessary; if any transportation of instruments or specimens is contemplated, a wagon is indispensable. The roads are, upon the American standard, good, so that fairly heavy loads can be drawn.

The region traversed is a plateau with mountains rising from it, isolated, in groups, or in ranges. The altitude varies from 2500 feet near Pecos to 5000 feet at Fort Davis; the highest of the mountains are from 8000 to 9000 feet in altitude.

In common with much Cordilleran scenery the altitude of the observer detracts from that of the peaks, but the boldness of outline, the sternness of color, and the massing of composition give the impression of great strength, sometimes even of sublimity. The "mesa" type is present, but not by any means universal, and views of Alpine outline are abundant (see figs. 49-51).

The valleys are broad and very long; in some instances the mountains are visible fifty miles down the valleys; the base being



FIG. 50. — The Rio Grande, looking southeast from Presidio.

hidden by the curvature of the earth, the effect is comparable to a view at sea. The bottoms of the valleys are often absolutely flat and scarred by stony arroyos quite disproportioned to the occasional pools or insignificant streams which occupy them much of the year.

The mineral resources are undeveloped: silver is mined near Shafter, and gold has been reported; as yet the difficulties of life and transportation interfere with the growth of permanent agricultural or industrial settlements.

Climatologically, the region is semi-arid. On the more level plateau trees hardly exist; thin woods may be found on the mountain slopes in isolated localities, but as a whole the vegetation is confined to sparse grass, mesquite bushes, greasewood, various thorny shrubs, and many species of cactus. Meteorological observations have been kept at Pecos and Fort Stockton, and continuously at Fort Davis (5000 feet). The record at Fort Davis for 1905 is: maximum temperature, 96°; minimum temperature, 3°; annual average, 58.4°; departure of annual average from normal, - 2.4°. Precipitation, 23.13 inches; departure from normal, + 9.10; snowfall, 6.5 inches; prevailing wind, southwest.

The rainfall occurs mostly in the summer, and ten months may elapse without precipitation. The lack of water is the economic problem; water can be found by drilling wells, and it may be preserved in "tanks." True springs are rare. In the mountains the larger streams are permanent, but in the more level parts such a stream as Alamito creek, with a length of eighty miles, becomes a series of widely separated pools.

During our trip the average of cloudiness was rather high; cloudless days were rare; cumulus clouds formed frequently during the afternoon and stratus in the west, but the former generally soon disappeared. Absolutely no dew was observed. The temperature is strictly continental, with large daily ranges and violent changes. The spring of 1909 was particularly windy, and next to the aridity the wind is the controlling feature of camp-life.

We experienced three "northers," all of which sprang up about midnight after an evening of exceptional calm and beauty. The drop in temperature incident to the first (April 8) at the base of the

Barilla mountains was 40° in fifteen hours; of this perhaps 25° occurred between midnight and four o'clock in the morning. Complete cloudiness and a tentative mist accompanied the first (the only precipitation during the trip), the second was absolutely cloudless, and the third presented a mixed condition.

The wind velocity may be estimated at from 18 to 50 miles an hour; the wind was almost abnormally gusty, considering the open



FIG. 51. — View near Alpine, Texas.

country, and came from the north, northwest, and east-northeast respectively in the three storms. The second storm (Fort Davis, April 12) was accompanied with dust. A typical hot dust-storm took place April 20, overtaking us in the Alamito valley. The wind was southwest and more constant than the "northers," the air became filled with dust both palpable and impalpable, and the sky and mountains were obscured to about the degree that arises from a summer eastern haze on the Atlantic coast.

Camping in the open during these storms is attended with great discomfort.

The interesting and sometimes beautiful phenomenon of "sand-

spouts" was frequent on hot, still days. Several of the pillars, apparently almost motionless, could be seen at once; they are of course characteristic of all hot deserts.

It is commonly asserted that sensible temperatures differ according to humidity; that is, heat feels hotter on a muggy day, and an eastern cold wave is more severe than a lower temperature on a western prairie; this was not the experience of the writer as to either heat or cold accompanied by the excessively low humidity. Possibly this was owing to the suddenness of the change to the outdoor life, to the high wind velocities in the cold periods, and the absence of wind during the hot — or, more likely, to personal qualities, propensity to perspiration, type and thickness of clothing, etc. This is worth noting, as sensible temperature practically controls industry and life in extreme latitudes and altitudes; many factors other than absolute temperature, pressure, and humidity are to be considered, especially in connection with the availability of certain places as health-resorts.

Fort Davis, with a comparatively small annual range of temperature, is beneficial in cases of tuberculosis and well-regulated sanatoriums are desirable. The region traversed is almost exclusively devoted to grazing; horses, mules, cattle, and goats find a somewhat meager livelihood; the poisonous and insidious "loco" (*Astragalus mollissimus*, etc.) kills many and the treacherous mud banks catch others alive; the desiccated bodies and skeletons of these beasts are of frequent occurrence. There are a few antelope and panthers, and in the Chinati mountains can be found fair hunting. Near Marfa, especially, along the line of the Southern Pacific Railway, crows are found in surprising numbers; their habits at roosting-time and their disputes over places on the telegraph wires are instructive and diverting.

Insects in April are practically absent; save for the Rio Grande valley there are no flies, and of fleas, mosquitoes, and noxious bugs not a trace; snakes are not seen at this season.

The district is rich in paleontology, particularly of the upper Cretaceous; in an hour's search the following were collected in a bank on a mesa near the Barilla mountains: ¹ *Turritella vertebrator*—

¹ The identifications were very kindly made by Professor Robert T. Jackson of Harvard University.

des, *Holaster simplex*, *Anomia*, *Gryphaea pitcheri*, *Ostræa larva*, *Neithea texana*, sea urchin. Other species, vertebrate and invertebrate, can be readily found.¹

The geology is varied, the rocks ranging from sedimentary Carboniferous and Cretaceous to igneous of later epoch. The sedimentary limestone is somewhat monotonous, but the igneous basaltic formations in the Davis mountains are of great interest; of a striking reddish brown color the columnar cliffs of Limpia cañon surpass the Siebengebirge and the Giant's Causeway in tone, though not in size and perfection. Caves of all kinds are numerous, both under level valleys and in perpendicular cliffs; rock-shelters occur wherever an eroded rim or scarp gives opportunity.

Near a spring about six miles north of Shafter, on the road to Marfa, is a deposit of igneous material resembling cinders and lava; the absence of any obvious crater here is striking.

Of the archeology of the trans-Pecos territory little is known, and with one exception no extended scientific exploration has been attempted.

Pueblo Indians do not seem to have occupied it; the inhospitable character of the land does not invite to permanent settlement; tribes, however, passing through on errands of migration, or hunting, or by reason of their warfare with Americans or Mexicans or with other Indians, have left traces at their stopping places.

These may with some certainty be referred to the Apache (Athapascan) and probably later to the Comanche (Shoshonean); these tribes as allies made trouble for the white settlers during the last century. The entire district is included in the overlapping Apache and Comanche-Kiowa claims.²

The remains observed or reported may be classified under work-sites and caves.

Work-sites, identified by chips of flint and other stones, may be found almost anywhere. They are more abundant along the water-

¹ Cf. R. T. Hill, Geological Survey of Texas, Bulletin 4, 1889, p. vii. E. D. Cope, Preliminary Report on the Vertebrate Paleontology of the Llano Estacado, Austin, 1893. F. W. Cragin, Invertebrate Paleontology of the Texas Cretaceous, Austin, 1893.

² Cf. C. C. Royce, Indian Land Cessions of the U. S., 18th Rep. Bureau of Ethnology, 1896-97, part 2, pl. clxiv, nos. 688 and 478.

courses, near springs and rock-shelters, and on commanding hill-tops. On the theory that the population was migratory, this is to be expected. Thus, near the Darter ranch, 40 miles south of Pecos, near the southern entrance into the Barilla mountains, quantities of chippings may be observed along the low bank of the broad arroyo. They were particularly localized near a ruined hearth or chimney (itself possibly not of Indian origin). This in turn is dominated by a rock-shelter with pictographs near the summit of a mesa 200 or 300 feet high.

As one retires from the banks, the flints become less numerous. Again, along the sides of a stream flowing from springs on the southern slope of the Barillas there are evidences of work; here the fragments are smaller and the chipping is much more delicate than elsewhere; a minute scraper, three-quarters of an inch in length, was taken by Mrs. Peabody from the muddy bottom of the spring itself. Its occurrence there is probably accidental; the springs vary so much from month to month in number, position, and size that it is hardly conceivable that the Indians should endow any special one with particular ceremonial virtue.

For part of the distance near the McCutchin ranch, in the open valley between the Barillas and the outliers of Major peak, "road specimens" were good, but higher up in Limpia cañon proper there were none observed; yet here there is running water. Near Fort Davis much material can be picked up near Carpenter mountain, 11 miles to the west near the Merrill ranch; specimens were also reported from near the Camp-meeting Ground, 20 miles west on the road to Valentine.

South of Marfa, on the road over the hills to Shafter and thence to Presidio, specimens were extremely rare, as they were also near the Rio Grande on both sides. A walk of some hours on the Chihuahua side, east of Ojinaga, revealed but one doubtful "reject" and a threshing floor with sherds of primitive but modern pottery. The hills of Presidio county do not surprise one by this paucity of material, for the Shafter neighborhood is the most barren of all, and the country rough and broken. But why specimens should not be found along the Rio Grande beyond the flood limits is hard to explain.

Turning north, following up the valley of Alamito creek, traces again become evident.

At the Lopez ranch, about six miles from the Rio Grande, on a hill back of the house is a site commanding a superb expanse of country to the south. Here are many flints, rather rudely chipped, and two circles of piles of loose stones, many of which bear traces of fire. A small Mexican boy of the ranch pointed out another site on an eminence at a distance.

From there for 20 miles (nearly to Alamito) evidences of work are continuous, and almost every hilltop and ridge can be counted on to furnish specimens.

Thus it appears that the Indians' journeys and stopping-places can almost be mapped by their work-sites, following as they do the lines of least resistance and collected about those places which provide water, shelter, and control of an enemy's movements.

A feature of many sites is the circles of stones, sometimes more or less piled up, sometimes lying flat. There is such an abundance of natural stones that it is sometimes difficult to judge whether the arrangement is accidental or not. Several theories are locally current as to their origin, viz., that they are the remains of small defensive towers behind which, in lieu of trees, the Indians should hide; another explains the presence of several piles together as indicating the number of warriors in a party, and the informant further added that it was a custom to lay a stone or stones pointing from the circle in the direction of departure. Such a condition may have obtained at the Lopez ranch where two circles of such piles are observed. Again it is suggested that the pyramids or cones of stones were built with a slant in the direction of water.

All these are possible explanations; it is highly likely, however, that many are simply hearths; this is strengthened by the appearance of burning presented by many stones and by the widespread Indian custom of preparing such hearths.¹

One is impressed, while riding, by the occasional alignments of equidistant stones along the road; these are also referred to water-

¹ Mr C. C. Willoughby of the Peabody Museum, Cambridge, has in his collection several interesting photographs of such circular hearths excavated near Concord, Massachusetts.

directions; it may be, on the other hand, that they were set up recently during the progress of one of the topographical surveys.

At an extensive work-site three miles north of the Lopez ranch there lay on an open flat rock sixty-one crystals of calcite; such a cache, if cache it can be called, of decorative, non-utilizable material, is to the writer unique. Its interest is not lessened by the fact that the edges and faces of the crystals present so perfect a surface as,

in the opinion of Professor Charles Palache of Harvard University, to preclude an exposure to sun, rain, wind, or sand of more than a year.

Who brought them and whence—whither destined is unknown. It is possible that until recently they were covered by other stones, but there is no certainty in the matter.

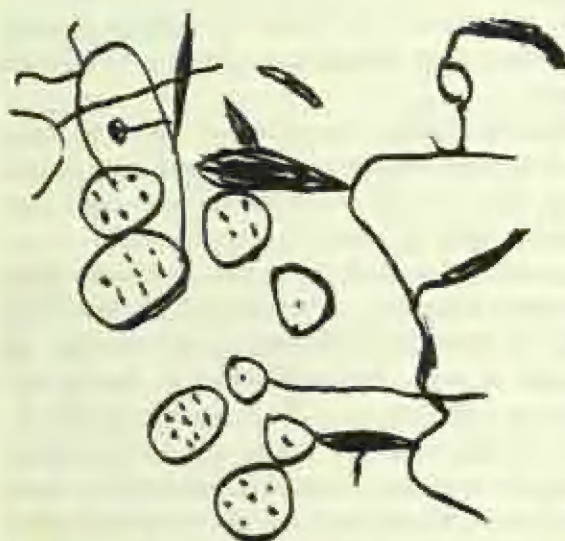


FIG. 52. — Pictograph in shelter on Square Top mountain.

True caves were not long occupied by man, but the rock-shelters are interesting: they were visited as follows: (1) Two miles and a half northeast of the Darter ranch, at the southern end of the Barilla mountains; it (with others) is in the "rim-rock" of Square Top mountain, about 200 feet above the plain. (2) In the "rim-rock" on the eastern side of the ridge, one quarter of a mile south of the Darter house. (3, 4) In the eastern and western base of Carpenter mountain, near Fort Davis. (5) At the base of the ridge on the western side of the valley, nine miles southeast of Shafter, on the road to Terlingua. (6) One mile east of the Bogel ranch, upper Alamito valley, 12 miles south of Marfa.

The floor deposits are not deep; no skeletons and but few chip-

pings were found. A burial is reported from the cave at the back of the Bogel rock-shelter, and numerous others from higher up on the same ridge; these are covered with stones (a custom common to the later Indians and the Mexicans¹) and contained some accompanying flints.

All these rock-shelters have been occupied, and contain pictographs of which a short description follows



FIG. 53. — Pictographs, Darter shelter.

1. The shelter has an entrance nine feet broad and an overhang seventeen feet high; it faces west. The pictographs (on both walls) include (*a*) figures of eight broad curves and lines, half an inch wide, in red, with smaller figures between in broader black lines; (*b*) a combination of curved lines and circles with dots, in black, suggesting a grotesque cactus (fig. 52); (*c*) a row of thirteen deeply indented lines perpendicularly depending from two horizontal lines.

2. The shelter faces northeast; it rises from a height of three

¹ Six miles south of Alamito, at the top of a ridge near a "tank" of water, is a long pile of loose stones with a Latin cross at the eastern end forming a Mexican grave of about 1899.

feet at the entrance and is ten feet deep. The walls and roof are much blackened by smoke, which seems to be of the same age as the pictographs. These consist of innumerable grooves, sometimes parallel, sometimes crossing, and cut to a maximum depth of a third of an inch (fig. 53). They may certainly be divided into (*a*) sharpening grooves, (*b*) tally marks, (*c*) symbolic designs, (*d*) unrecognizable forms.

Under (*c*) is an interesting sun or star with a hollow center and nineteen rays; and under (*d*) a complicated figure (turtle) stippled, not cut so as to appear light on the dark rock-surface.

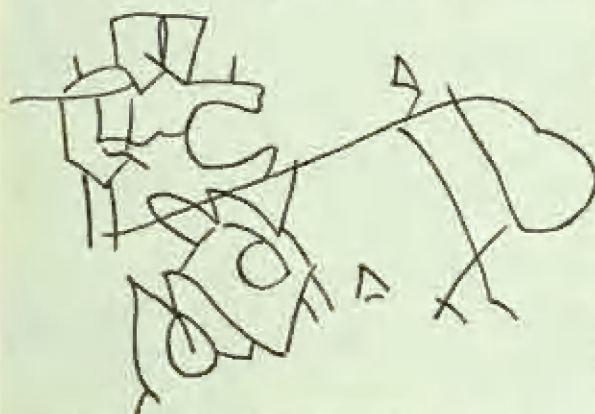


FIG. 54.—Pictograph in shelter at Mount Carpenter.

(3) The shelter faces eastward and is a natural hollow six feet high and the same in width and depth. It was originally well covered with pictographs, but as the surface is scaling away through seeping and atmospheric

influences many have disappeared. The most striking fragment is given in figure 54; the lines are brownish-red and about half an inch wide.

(4) Directly opposite, facing westward, at the base of the same mountain is a natural dolmen-shaped shelter near a work-site. The pictographs in lighter red emphasize a W motive; this is hardly significant, as so many of the adjoining lines are obliterated.

(5) The shelter faces northeastward and is black with smoke. Red pictographs in parallel and converging lines and triangles adorn it; some of them combine to form a resemblance to the modern Comanche sign for "farewell" (on the testimony of Wellington Glaze, who, as a cowboy, has had experience here). Near by is a cut or stippled human face or skull, through the upper part of which



PICTOGRAPHS, BOGEL SHELTER, TEXAS

is drawn a red line. A few paces to the south is another small shelter, and near it on the rock a figure in red of an arrow pointing upward.

(6) The shelter is large and faces westward ; it is about 100 feet long, 14 feet deep, and 14 feet high ; its pictographs are quite celebrated. They include a set of figures, human and not human, in black ; an outlined Greek cross in red ; a headless human figure, eight inches long ; many parallel lines in red ; six black marks over a small recess ; a scalp-shaped figure, in black, and (see plate x) lines in red, a rude arrow in orange, nine horned animals pointing the same way, and some modern initials.¹



FIG. 55.—Scrapers from the Darter work-site. (1)

No archeological sketch is complete without a mention of the cache of minute points discovered on the summit of Mt Livermore, 8300 feet high and the highest of the Davis mountains. It was first noted by Mr T. A. Merrill and later thoroughly excavated by Mrs S. M. Janes of Fort Davis, in whose possession the points remain. Over and around the points was piled a mound of stone ; they number more than a thousand, finely chipped and of various forms. Both points and site are undoubtedly ceremonial. It is hoped that Mrs Janes will publish a detailed account of this discovery, which may prove unique.

¹ Cf. Garrick Mallery, 4th Rep. Bureau of Ethnology, especially pl. 11, x (California). W. H. Holmes, Trans. Anthrop. Soc. Washington, 11, 1882-83, p. 163. W. J. Hoffman, *Am. Anthropologist*, 1888, pp. 209-29. W. J. Hoffman, Trans. Anthrop. Soc. Washington, 11, 1882-83, pp. 136-37. L. W. Gunckel, *Am. Antiquarian*, 1893, pp. 223-29. J. Teit (ed. Boas), *Mem. Am. Mus. Nat. Hist.*, N. Y., vol 11, *Anthropology* 1, Apr. 1900, pls. xix and xx.

The archeological material collected is in the main rough. The high, humped type of scraper (fig. 55) is the only complete implement found in any abundance, and nearly all are from the Darter work-site.

Fragments of points, knives, and scrapers, cores, spalls, chips, and unfinished, unsatisfactory, and rejected implements constitute most of the surface specimens.

Occasionally one finds a good (Indian) "*coup de poing*," or a flat knife. The absence of perfect specimens is accounted for by the supposition that the Indians carried away their finished products. White men's collecting has assisted as well.

The material, flint and chert of various degrees of purity and hardness, is probably native to the region.

Metates and rubbing- and hammer-stones are also very plentiful, the first sometimes very fine. In a few places grinding holes in the flat rock are to be seen.

The outlying mountain regions of El Paso and Brewster counties are reported to contain caves and burials, and a careful exploration of these would be worth while. A collation of the pictographs, which must exist in very great numbers, is also a work which it is very desirable to have done.

PEABODY MUSEUM, HARVARD UNIVERSITY,
CAMBRIDGE, MASSACHUSETTS.

THE ESKIMO TRADE JARGON OF HERSCHEL ISLAND

By V. STEFÁNSSON

WHEREVER white men have remained for a year or more in definite contact with the Eskimo people there has sprung up a more or less complete system of jargon talk mutually serviceable to both parties. In some such well-known examples of jargon as Pigeon English, the basis is a European tongue or a number of European tongues; in the jargon employed by the Eskimo in dealing with either white men or Indians the basis is (so far as known to the writer) always distinctly Eskimo. At the root of many nouns, however, lies an English word, but it is usually so metamorphosed as to be well-nigh unrecognizable — witness Point Barrow jargon *â'-ra*, derived from 'rice.'

It is necessarily difficult to one habituated to the use of an inflected language to become perfect in the use of an agglutinative tongue. Speaking without definite knowledge, the writer supposes it more difficult to learn Eskimo than Chinese — more difficult through the indefinite variations of an unwritten language contrasted with the precision of a written one; more difficult also through the lack of suitable dictionaries and the absence of skilled teachers. Nevertheless this is far from being the popular understanding of the case. Since adventures in Labrador became the holiday fashion and Lawrence Mott and others began writing Hudson Bay tales, one meets every week or two someone who has a friend who has been in Hudson bay three months and speaks Eskimo like a native! Arctic whalers are currently supposed to be masters in the polar tongues, and even our Government has lent its countenance to the publication by one of them of a book said to be on the Eskimo language but which is in reality a study in ships' trade jargon.

Confronted with the kaleidoscopic changes in form of the real Eskimo speech, the casual observer finds no rhyme nor reason, and the ordinary one does not suspect there is any. If he finds that an

evidently hungry man says *kaak'tuñā* when he wants food, that is translated 'hungry'; when subsequent investigation reveals the pronouns *awoñā*, *illipst*, *ila* [I, you (plural), he], the whaler or trader makes up the sentences (1) *awoñā kaktuñā*, (2) *illipst kaktuñā*, (3) *ila kaktuñā*, which he considers to mean respectively 'I am hungry,' 'you are hungry,' 'he is hungry'; and that they eventually come to mean in the jargon. Being interpreted, they read, however, (1) 'I I-am-hungry'; (2) 'you (three or more of you) I-am-hungry'; (3) 'he I-am-hungry.'

An Alaskan missionary has told the writer that on arrival at his post of duty he was instructed as follows by his predecessor (who had been preaching the gospel to the heathen for seven or eight years "in their own language"): "When you want a boat to take you on shipboard, go to anybody who owns a boat and say: '*Ō-mi-ak-pūk a-lak'-tok pi-cu'k-tok a-woñ-a'*'; that means: 'I want to go on shipboard.' Taken in order the words really mean, however: 'the ship|he goes|he wants|I.' While the correct Point Barrow form of the expression "I want to go on shipboard" is: *am'-i-ak-pi-ok'-tuñā* (abbreviated from *am'-i-ak-pūx-mōx-i'k-tuñā*).

The writer has set down the jargon as nearly as may be in accord with ordinary Herschel island usage, though he is also familiar with it as used at Point Barrow. At Herschel island, indeed, practically all forms of the jargon exist side-by-side, for here gather whalers who have picked it up in Kotzebue sound, at Point Hope, Point Barrow, and at other places—and even one or two who have it from near Marble island on the Atlantic ocean side—from which source we probably have at least the two words *kab-lū'-na*, 'white man,' and *kū'-m*, 'wife,' 'husband.' As to pronunciation, much depends too on the individual white man—two skippers from Martha's Vineyard may differ widely both in ear and tongue, while in the mouths of Norwegians, Germans, Kanakas, and Cape Verde islanders the words assume varied forms. A semblance of uniformity is possible in a vocabulary like the present only by adopting the Mackenzie River Eskimo pronunciation as used in dealing with whites—which has accordingly been done.

Among the Mackenzie River Eskimo there is, beside the ships' jargon, a more highly developed one used in dealing with the Atha-

basca Indians around Fort Arctic, Red River, and Fort Macpherson. This form is unfortunately but slightly known to the writer. It has probably more than twice as extensive a vocabulary as the ships' variety and is so different from it that some white men who know the ships' jargon have employed as interpreters Loucheux Indians under the impression that the Indians spoke real Eskimo. The greatest difference results from the inability of many white men to distinguish the final *k* sound characteristic of Eskimo words, while the Loucheux not only keep all the final *k*'s and other consonants, but even put *k*'s where they do not belong. By dropping the final consonant the white man often comes near using the *stem* of the word in its proper form. Another difference is in that the Loucheux derive their form usually from the third person singular indicative present, while the whites derive theirs from the corresponding first person singular. The following forms bring out these and other differences.

ENGLISH	LOUCHEUX JARGON FROM ESKIMO	SHIPS' JARGON
hunger, hungry	<i>kak'-tòk</i> from <i>ka-a'-k-tòk</i> or <i>ka-a'-k-tu-ak</i>	<i>kak'tūn-a</i> from <i>ka-ak'-tūn-a</i>
break, broken	<i>na-vik'-tòk</i> from <i>na-vik-tòk</i> or <i>na-vik-tu-ak</i>	<i>na-vik'-ta</i> from <i>na-vik-tòk</i> (?)
die, dead	<i>na-vik'-tòk</i> from <i>na-vik-tòk</i> or <i>na-vik-tu-ak</i>	<i>muk'ki</i> from (Kanaka?)
wife	<i>nū'-li-ak</i> from <i>nū-li-a(k)</i>	<i>kū'm</i> from (Danish, <i>kona</i> ?)
that one, he	<i>ū'-na</i> from <i>ū'na</i> (that one)	<i>i-la</i> from <i>i'-la</i> (he)
want, wants	<i>pī-cūk'-tòk</i> from <i>pī-cūk-tòk</i> or <i>pī-cūk'-tū-ak</i>	<i>pī-cūk'-tū</i> from <i>pī-cūk-tòk</i>

Although the Loucheux employ their jargon at present largely in dealing with the Mackenzie Eskimo, the form of their jargon words shows pretty plainly that it (the jargon) must have been developed in contact with inland Eskimo or those from near Point Barrow. This is rendered probable, too, through our knowing that from remote times there was a trading rendezvous at Barter island where met not only Eskimo from east, west, and inland, but also one or more groups of Indians. At that time (forty or more years ago) the Indians and Eskimo were in continual hostility on the

Mackenzie river. The following words are introduced for comparison; the list could be indefinitely lengthened. So far as known to the writer this comparison gives us the only available clew as to what Indians they were with whom the Point Barrow Eskimo in ancient times exchanged goods at Barter island and Collinson point.

ENGLISH	LOUCHEUX JARGON	PT BARROW OR INLAND ESKIMO	MACKENZIE RIVER ESKIMO
good	<i>na-gō'-rōk</i>	<i>na-gō'-rōk</i>	<i>na-gō'-yū-ak</i>
wood	<i>kē'-rūk</i>	<i>kē'-rūk</i>	<i>kē'-yūg</i>
now	<i>pūg'-mūm'-mī</i>	<i>pūg'-mūm-mī</i> or <i>kag'-mūm-mī</i>	<i>kag'-ma</i>

Some whalers and traders who deal with Eskimo try to make use of their knowledge of word changes, with results amusing to the Eskimo, for while he is hardened to the jargon he finds attempts at correctness laughable. Most whalers, for instance, when speaking of going ashore, will use the uninflected (accusative) form of the word for 'land' (*nū'-na*); others have noticed that the Eskimo says he is going *nū'-na-mūn* ('toward or to the land') and have translated this (mentally) 'on shore.' Accordingly they will thereafter use the termination *-mūn* in a locative sense as well as in its real terminal one, and will speak of a tent being *nunamun*, 'toward the shore,' when they mean to say it is on shore.

Mistakes of this character, as well as many others, are likely to get upon our maps. An instance is Beechey point, the native name of which is *Ō-līk'-tōk*. If you ask a man "Where are we now?" he will answer (using the locative case), "*Ō-līk'-tō'-nī*," 'at Oliktok'; ask him where his tent is, or where deer hunting is good, and he may answer "*Ō-līk'-tō'-nī*." Accordingly every white man who knows the place by an Eskimo name knows it as *Ō-līk'-tō-nī* or *Ō-līk'-tō'-nī*, and so it may one day appear in some Government report and become authoritative — as many such things have become "authoritative" in the past. It would truly seem absurd not to take the word of men who live in the neighborhood and who have had Eskimo wives for nearly twenty years.

It is rarely the jargon makes a difference between singulars and plurals, while the dual may be said to be never recognized. Occa-

sionally the singular *il-lā-ii* (thou) and the plural *i-hp'-si* (you, three or more) are differentiated, and still more rarely *in'-nāk* (a man) and *in'-nā-ii* (men, three or more). A friend of the writer's at Herschel island had discovered the form *i-hp'-tik* (you, two of you) and had been told it meant "you two." As spoken, this sounded like "you too" and was accordingly given the writer in that signification as a bit of special knowledge possessed only by the informant. This is the writer's only experience with the dual in actual use in the jargon.

The suffix *-lāk*, *-hlāk*, *-qlāk*, which has entered such (rarely used) jargon words as *ōk-tūk-lāk*, *tāk-tā-lāk*, is of some special interest. Primarily it means 'bad,' 'wretched,' 'wicked,' 'worthless,' 'spoilt.' What the Mackenzie (the same holds of some others) Eskimo thought of certain white men's wares is shown pretty well by *kam'-muk-hlāk* (makeshift pants) for cloth pants, *ōk-tūk-hlāk* (spoilt oil) for kerosene, *tāk-tā-qlāk* (bad deer meat) for pork or bacon, *tān-a'-qlāk*, molasses, etc. In other words, these names bear out pretty well the Eskimo statement that when on board ships they found eating white men's food a sore trial and considered their clothes (as they still consider them) makeshifts at best.

In a system of speech comprising only a limited number of uninflected words, much depends on circumstances and context as to the interpretation of any set of them. A sentence perfectly intelligible and definite when used in the course of a conversation between men who are face to face may become of uncertain meaning, of many meanings, or no meaning at all, if divorced from its accompanying gestures and set down isolated in writing or print.

Take as an instance the jargon sentence *Ktm-muk ka'i-li pt-cū'k-tū* (see vocabulary for meaning of words). If it were in answer to "Why are you whistling?" it would mean "Because I want the dog [e. g., my dog, his dog, the dogs, your dogs] to come. If it were in answer to "Why do you want Jim?" it might mean "Because I want him to bring a dog [his dog, my dog, etc.] to me." If it were an answer to "Why are you locking the door?" it might mean "Because the dogs keep trying to get into the house." If in answer to "Why did Jim go to Fort Macpherson?" it might mean

"Because he wants to get dogs there"—and so on, world without end. It will therefore be understood that the translations given for the illustrative sentences in the body of the vocabulary are but a few among the many possible meanings of the word combinations used.

VOCABULARY OF THE HERSCHEL ISLAND JARGON

The system of spelling used is that of Powell's *Introduction to the Study of Indian Languages*. Where a word has two accents, the minor accent is indicated by ' and the major by ''.

In some cases (e. g., *té'rèva*) it is evident the jargon word is derived from a form other than that cited for Mackenzie river. When the Point Barrow, Inland, or Western form is known to the writer, it is inserted (see, e. g., *térigandia*).

As *ε* is used as the equivalent of (English) *sh*, words containing this character are entered where they would stand if spelled with *sh*.

The writer cannot vouch for the syllabification of every Eskimo word in this vocabulary—he bases it entirely on his own pronunciation of the word, which is likely in some cases to be open to material criticism. This paper is written where it is unfortunately impossible to refer to a person speaking the Mackenzie dialect for verification of accent or division into syllables.

The vocabulary is briefer by a good number of words through the omission of most common and proper nouns that are only slightly-corrupted English and which would be readily understood by a newcomer in the Arctic.

Any jargon word may by itself be used as a question, or any combination of words may be so used. The question, if not required by the context, is indicated by inflexion.

VOCABULARY

a'-ba-ba (Kanakan?), say, speak, give orders; speech. *á-mé'-lík á'baba cá'-vík ká'ilí í-lí'p-sí*, the captain orders you to bring him a knife. *ábaba pí'tcúk*, shut up! (according to context, may also mean he said nothing, I said nothing, etc.). *ábaba tusa'ra pí'-tcúk*, I heard no talking.

a'-dí-ga'' (used as an exclamation by inland Alaskan Eskimo, at Pt Barrow and westward = fine! excellent! handsome! etc.), pretty,

good, desirable; used also to differentiate holiday from ordinary clothes, as *awòt'ga adiga kam'mik*, my ornamented (i. e. Sunday-go-to-meeting) boots.

ad'la (used by Esk. west of Herschel island), another, the other. *l'-la adla in'nuk*, that is another man.

ai-pa'-ni (Mackenzie Esk. *aipa'ni*, last year, or any time longer ago than last year, but less than a generation), last year, long ago.

ai'-pañ-a (Western Esk. *a'pañā*, his other one), the other, the second of two. *aipañā kam-mik na-vik'-ta*, the other boot is torn. *ōmē'lik aipañā*, the first mate (i. e. the captain's second, or rather, the second, therefore lesser, captain).

ai'-tcu (Mac. Esk. *ai'-tō-i-xa'*, I give him), give, pay, give in exchange. *awoñ'a ca'vik ai'tcū, ila awoñ'a eka'luk ta'llimat a'itcū*, I gave him a knife (for which) he gave me five fish.

a'k-ki-a (Mac. Esk. *ak'kicak*, something to be traded; *akkisūyūak*, it is expensive), buy, sell, trade; the thing intended for or obtained in trade. *akkia añaninni picū'ktu piteuk*, I don't want to pay a big price, he does not ask a big price, etc.

a'k-lū-na (Mac. Esk. *aklūnak*, now a general name for rope, line, etc., though it may have had more restricted meaning before whites came), thread, string, rope, chain (*ca'-vik aklūña*), dog harness (*kiñma aklūña*), etc. *ak'lūña mē'k-fast kiñma*, tie the dog with a rope (or string, chain, etc.).

a'-mī-a (Mac. Esk. *a'miak*, skin of an animal (not of a man), bark of tree, husk or shell of a seed, etc.), skin, fur.

a'-na (Mac. Esk. *an'nā*), harness, dog harness. *awoñā kiñma a'na ca-bakto*, put harness on my dog. (Most whalers use in place of *ana*, "*kiñma artegi*" or "*kiñma akluna*.")

a'-na-na (possibly Kanaka, though *an'nēnnak* is said to be used at Pt Barrow in sense of the 'cause of' or 'reason for,' a pain), sick, sickness. *kuni anana añaninni*, my wife (or husband) is very sick.

añ-a-nin'ni (Mac. Esk. *añ-i-yū-ak*, it is big; possibly from West. Esk. *añ-i-nirk-cūk*, it is quite large), big, much, very; as big price, very fast running, very heavy, etc., when combined properly, as *elekta kilamik añaninni*, he (or I, they, it, etc.) travel (run, sail, etc.) very fast.

an-au'-ta (Mac. Esk. *anau'tak*, an ax, club), ax; *anauta mikaninni*, hatchet.

an-nū-i (Mac. Esk. *an'-nū-i*), wind; *annui añaninni*, storm, blizzard.

a'-pun (Mac. Esk. *a'pun*, general term for snow lying on the ground, as opposed to drifting or falling snow), snow.

ar-tē'gī (Mac. Esk. *ar'tēgi*, coat), coat covering, harness (*kiñma ar'tēgi*).

a'-tcū' (Mac. Esk. *ā-tcū'*, I don't know), I don't know, he does not know (used with *ababa*, i. e. *ababa ātcū'*, he says he does not know); used also for perhaps, if, either-or, as *uñasiku tautuk awoñga atcu tuktu atcu kēruk añaninni*, I saw far away either a deer or a large piece of wood. *atcu oblakun sila nāgorok*, perhaps it will be good weather tomorrow.

at'-ka (Mac. Esk. *a'tirk*, name; *a't-ka* = his name), name.

a'-va-nē (Mac. Esk. *ał'-vak*), half, as *palauwūk awanē*, half (a sack of) flour.

a-wo'-ña (Mac. Esk. *awoñña*), I, my, as *awoñña kammik*, my boots.

boi'-lē-rū (English boil), to boil, cook by boiling, as *nekke boileru*, boil the meat.

dak'-tū (Mac. Esk. *d'aktuak*, it is dark — the *d* has an explosive sound which really makes it more nearly equivalent to English *t*; many whalers accordingly say *tak'tu*), darkness; dark, black.

ē-kal'-lūk (Mac. Esk. *ēkal'lūk*), fish.

ē-lēk'-ta (Mac. Esk. *aud-lā'k-tu-ak*, he goes, travels), go, travel, run, fly, swim, etc.; used also of inanimate things, as rifle bullets; also has meaning of break off, become loose. *ēlēkta t go! kikia ēlēkta*, the nail pulled out (or broke). *kaukau homolūktu kimmik kilamik ēlēkta*, dogs travel fast when they have plenty to eat.

ēl'-lōpa (possibly Kanaka, though universally used now by Eskimo everywhere west of Herschel island at least as far as the Kuwūk), cold, it is cold, I am cold, etc. *awoñña ar'tegi ēllōpa picuktu pīcūk*, my coat is warm (i. e. it does not want cold. This sentence illustrates pretty well the flexibility of the jargon).

han'naha'nna (Kanaka?), to sew, sewing. *wai'hinni ar'tegi annahanna pūgmūmimi* (or *annahanna cabakto pūgmūmimi*), the woman is sewing a coat now.

hō-mō-lūk'-tū (Kanaka?), plenty, many, much. *ekalluk hōmōlūktū*, plenty fish.

ig'-lū (Mac. Esk. *ig'-lu*), house, though usually used of native houses.

ig'-lū-pūk (Inland and Western Esk. *ig'lūpūk*, a big house, usually used of white men's houses), at Herschel island means primarily the Hudson's Bay Co.'s trading-post, Fort Macpherson, though used of the police barracks at Herschel island. At Pt Barrow used of any of the big white men's houses. *awoñña iglupūk ēlēkta*, I am going (I went) to Fort Macpherson.

ig-nē'-ra-vik (Mac. Esk. *ig-nē'-ra-rik*, a place for fire), stove.

ig'ni (Mac. Esq. *ig'-nirk*), fire.

ik-pūk'-cak (Mac. Esk. *ikpūkcak*, yesterday), yesterday, last time — used for any past time less than a year.

ī-kūt-ta (Mac. Esk. *īkū-ān*, a small oil-soaked stick kept lying beside the native lamp, to be lit and used whenever needed as a torch, or to light a pipe, etc.), matches.

ī-la (Mac. Esk. *ī-la*, or *īl'-ya*), he, she, it.

il-lip-sī (Mac. Esk. sing. *il'-lū-it*, dual *ē-lip'-sīk*, pl. *ē-lip'-sī*), you.

ī-lu-a'-ne (Mac. Esk. *ī-lu-a-nī*, in the inside of), in, inside, as *iluane kammik*, inside boots, i. e. socks.

ī-mēk (Mac. Esk. *im'mek*, water; *ī-mer-ūk'-tū-ak*, he wants water), water. *imēk picuktu*, I want a drink.

īn'-ī-tin, in'-nī-tin (Mac. Esk. *in-nī'-tū-ak*, he sits down; form probably derived from imperative (sing.) *in-nī-fin*, sit down), sit, sit down. *innitin picuktu*, I want to sit down, he wants to sit down; *kamotik kolane innitin*, sit on top of the sled.

in'-nūk (Mac. Esk. *in'nūk*, a human being, homo, man; seldom used by whalers to refer to women). This is only one of the few words of which certain whalers occasionally use the plural form if referring to many, as *in-nū-it homolūktu*, many people.

kab-lū'-na. Of Greenlandic? (Eskimo?) origin. Mac. Esk. use *sū-blū-a-raun'*, Inland Esk. *tan'-nik*, West. Esk. *nal-lū-ax'-mi-ū(k)*, white man, *kabluna kammik*, white men's boots.

kai-li (Mac. Esk. *kai-yū-ak*, he comes; derived from the imperative (probably) *kaili*, bring it here), come, bring it, etc. *anautu kaili*, bring the ax; *innuk kaili*, there is a man coming; *ababa innuk kaili*, tell (some) man to come here.

kak'-kō-lak (Mac. Esk. *kak'-kō-lak*. Original meaning of word?), hard bread, pilot bread.

kak'-tuñ-a (Mac. Esk. *ka-ak'-tū-ña*, I am hungry), hungry, hunger, appetite (starvation = *kak'-tuñā mūkki*); *kaktuña awoña*, I am hungry; *kaktuña mūkki innuk kōpūk*, people are starving at Kōpūk.

ka'-lī-kō (Eng. calico), any kind of woven or knitted stuff. *tupek kaliko*, tent drilling; *kaliko kammik*, socks (e. g. woolen).

kam'-mīk (Mac. Esk. *kam-mak*, trousers), boots, socks, trousers, etc.

ka-mō'-ta (Mac. Esk. *kamō'tik*), sled.

ka-nīf'-tū (Mac. Esk. *ka-nīf'-tu-ak*, it is near), near.

kap-sais' (Eng. capsiz), capsize, upset, spill, throw away (from a pan, dipper, pail, etc.), turn upside down. *mūgwa kapsais silatani*, empty this (e. g. slop pail) out of doors.

kap-sí'-n ʔ (Mac. Esk. *kap'-át*), how many?

kau'-kau Kanaka? possibly related to our "chowchow"), food, to eat, to bite. *kaukau pitcuk owoxha*, I have no food, or, I have not eaten. *kimmik innuk kaukau picuktú*, the dog bites (is inclined to bite) people. Used also of mosquitoes, etc., stinging or biting.

ké'-rúk (Mac. Esk. *ké'rúk*), wood. Used in many ways; e. g., *tiglarautan ké'rúk* may be (one ship) yard, boom, jibboom, bowsprit, or even the masts.

ké'tcém (Eng. catch-him, or catch them), get, take, etc. *íglopúk elekta ilipst íglupúk kammik ketcem*; *awoña picuktu*: when you go to Macpherson get some Macpherson shoes (i. e. Indian moccasins); I want them. ("Get them; I want them," is the usual jargon way of saying "get them for me.")

kí'-kí'-a (Mac. Esk. *kí-kí'-ak*), nail, nails.

kí'-kí'-á'-na (Mac. Esk. *kí-kí'-á'-nak*), a box.

kí'-la'-mík (Mac. Esk. *kí-la'-mík*, quick), quick, quickly.

kí'-na [Mac. Esk. *kí'-na*, *kín'-ya*, or *kí'-nya*, who: used of people, dogs (and all things considered alive?)], who, which, which one. *kína omiakpúk tautuk ʔ*, which ship did you see?

kíñ'-ma (Mac. Esk. *kím-márk*), a dog.

kís'-sí-mí, kí'-tci-mí (Mac. *kissimi*, only, alone), only, alone, nothing else. *palauxwúk kissimi picuktu illuit ʔ*, do you want nothing but flour.

kó'-la'-ne (Mac. Esk. *kó'-la''*, above), above, on top of, the top.

kúb'-ra, kúb'-dja (Mac. Esk. *kúb'-djak*, a net), a net — for fish or seal.

kúd'-la, kóð'-la (Mac. Esk. *kó-ðá'-lík*, a lamp), a lamp, lantern: some whalers use *na'-ne-ró-a*, a West. Esk. term for a white men's lantern.

kūk'-kem (Eng. cook-them), to cook, to be cooked. *nekke kukkem picuktu*, I want cooked meat, or, I want to cook meat.

kú'-ní, kūn'-ya (may be derived from Danish (Greenlandic) *kona*, woman, and brought to Herschel island by whalers who had previously sailed in the eastern Arctic), wife, husband.

kwak (among some groups of Eskimo *kwak* refers to any frozen flesh-meat, fish; among some it is restricted to frozen meat, among others to frozen fish), frozen, as *awoña kwakañaninni*, I got badly frozen (used also of frozen food: *kwak kaukau*, he eats frozen food).

ma'-ni (Mac. Esk. *ma'-ni*, locative case), here, in this (or that) place; hither. *ababa Kú'nak mani kaili*, tell Kunak to come here.

mék'-fast [Eng. make fast], tie, fasten, hitch up. *kíñ'-ma kamotik mek'-fast*, hitch the dogs to the sled.

mě-la'-tcūk (Eng. molasses), molasses, syrup.

mikaninni (Kanaka? cf. *pickaninny*), small, little; a child; (even) a full grown son or daughter (man or dog).

mī-ki-rū'-ra (Mac. Esk. *mī'kiyūak*, it is small; Inland Esk. *mī'kirok*, it is small), a little. (*mikaninni* is more often used for "small.")

mī'-lūk. This is, in a way, an interesting form. The whites who use it consider it a corruption of the English "milk," while to the Eskimo it is their own word "*mī'-lūk*," which refers to any milk (human, caribou, etc.). Some groups of Eskimo west of the Mackenzie use also the form *l'-mūk*, but most, if not all, words used to refer to milk, milking, sucking, nursing a child, etc., are formed on the *mīlūk* (and not the *l'mūk*) stem. An imaginative theorizer on the fate of the lost Icelandic colonies in Greenland¹ might further point out that as the Icelanders are the only dairying people with whom the Eskimo are known to have come in contact in ancient times, the Icelandic form of this word becomes interesting. In the spelling employed in the present vocabulary the Icelandic *mjólk* would become *mī'-ólk*. The two forms (Eskimo *mī'-lūk*, Icelandic *mī'-ólk*) are decidedly easier to reconcile than some with which Thalbitzer is considered to have succeeded so well. It is evident that they are no farther apart than are the following words used to-day at Herschel island and derived from English within the last twenty years.

mē-la'-tūk from molasses

pa-lau'-wūk " flour

mī'-n " tea

ka'-pi " coffee

rai'-pa from rifle

pau'-ra " powder

ū'-ra " rice

The following are from Point Barrow:

tak'-t from doctor

pū'-rē " Fred

mī'-tē from Mister

pau'-dlū " powder

and other forms still more bewildering.

mīt'-kū (Mac. Esk. *mīt-ku(k)*), the hair of an animal; e. g. a fox), hair (human or animal), beard.

mūg'-wa (Mac. Esk. *mūg-wa*, that one), this, these, those, they.

mūk'-kī [(Kanaka?) but now used by many Eskimo west of Mackenzie, with all the proper changes of form, instead of their own *d'ū'kōrōk*, he is dead], dead, broken (as a wrecked ship; cf. *nav'kta*).

¹ See the writer's article, The Icelandic Colony in Greenland, *American Anthropologist*, 1906, vol. 8, 262.

- mûk'-kî-tîn** (from imperative sing. of Mac. Esk. *mûk-kî tû'yû-ak*, he stands up), stand up, get up (out of bed); wake up.
- mûk-pau-ra** (probably from *mok-pûk*, a small football kicked around by girls), fried bread, doughnuts.
- mûk-pra** (Mac. Esk. *mûkpêrak*, paper; cf. *mûp-tu-gî-sû-yu-ak*, it is very thin), paper, letter, book, newspaper. *mûkpra cabakto*, to write a letter, read a book, etc.
- na-gô'-rôk** (Mac. Esk. *nagô'yûak*, it is good; Inland Esk. *nagô'rok*, it is good), good—in various senses, as strong, willing to work, not a thief, good to taste, etc.
- na-na'-kô** (Kanaka?), after a while, by and by, afterward, later. *tuktu mûkki ila nanakô elekta*, he killed (some) caribou, then he went away.
- na'-nê-rê-a** (Mac. Esk. *na-nê-rê-ak*, now used for steel traps also, though formerly the name for the log, ice, or stone deadfalls), a trap. *têrêgander nanerea cabakto*, to trap white foxes.
- nap'-pa** (West. Esk. *nûp-pak* (?)), half. Cf. *a-va-nê*.
- na-vîk'-ta** (Mac. Esk. *na-tûk-tu-ak*, it is broken), broken, torn; dead. Cf. *mûkki*, which ordinarily is used for dead, to kill, etc.
- nêk'-kê** (Mac. Esk. *nê'-kê*), meat.
- nû'-na** (Mac. Esk. *nû'-na*, land, earth), land, earth, sand, gravel, etc. *nuna elekta anwaña picuktu*, I want to go ashore.
- ô-bla'-kô** (Mac. Esk. *ô-bla'-kûn*), tomorrow.
- ô-blû'-mi** (Mac. Esk. *ô-blû'-mî*), today.
- ô'-kî-o** (Mac. Esk. *ô'-kî-ôk*), winter. *ôkio nanako*, next winter. For past winters the expressions run: *ôkio ikpûkcak*, last winter; *ôkio aipani kanittu*, a winter not long ago; *ôkio uñacikcu*, a winter long ago; *ôkio añaninni uñacikcu*, a winter very long ago; *malo ôkio aipani*, two winters ago.
- ôk'-tcûk** (Mac. Esk. *ôk'-tcûk*. This word is pronounced *ôg'-rôg*, *ûg'-rûg*, *ûg'-rû*, etc., by whalers, who have picked up the word at Pt Barrow or farther west. Inland Esk. *ôq'-ô-rôk*), fat, oil, blubber, etc. *kîñma ôktûk mikirura*, the dog is not fat, or, there is little blubber for dog feed, etc.
- ôk'-tcûk-lûk** (Mac. Esk. *ôk'-tcûk-qîlûk*), bad, spoilt, or ill-smelling oil), kerosene. Some whalers, etc., use "*tîpî ôktûk*" (evil-smelling oil — literally) to designate "kerosene."
- ô-kûm-maî'-tcû** (Mac. Esk. *ô-kûm-maî'-tcû-ak*, it is heavy), heavy.
- ô-mê'-lîk** (Mac. Esk. *ûm-l-â'-lîk*, owner of an umiak (big skin boat), or, simply, a rich man), captain, boss, rich man.

ō-mē'-līk ai'-pañ-a (see *aipaña*) ; first mate of a ship ; second in command.

ō-mī-ak'-pūk (Mac. Esk. *ūm-i-ak'-pūk*, a large umiak — though Mac. Esk. indicate bigness usually by *-ai'-ak* and *-pa'-luk* where Eskimo to the west use *-pūk* and *-cū'-grūk*), a ship.

ō'-mī-ak pau'-ra (Mac. Esk. *ūm-i-ak-pau'-yak*, a little big boat — used of whaleboats usually, but sometimes of schooners and sloops), a whaleboat, a wooden boat.

ō-nak'-tu (Mac. Esk. *ōn-ak'-tu-ak*, it is a warm, hot), warm, hot.

ō-pīn'-ēr-a (West. Esk. generally *ō-pīn'-er-ak*), summer. For designation of past summers, cf. *ōkio. nanako opinera malo tereva awoña-kaili suli picuktu*, after two summers are finished I want to come again.

pa-lau'-wūk (Eng. flour), flour, bread.

pau'-diū (Eng. powder), gunpowder.

pī-cūk'-tū (Mac. Esk. *pī-cūk'-tū-ak*, he wants, desires), want, be inclined to, to allow. For examples of use, see under *ellopa*, *opinera*, and various other words.

pī-cū-nīt'-tcū, pī-cūñ-nīt'-tcū (Mac. Esk. *pī-cūñ-nīt'-tcūña*, I do not desire, I do not want), not to want, not necessary, needless. *térégandia picunittu*, I do not want fox-skins (or, he does not, etc.). *ablumi kaili picunittu*, he does not need to come to-day.

pī'-tcūk (Mac. Esk. *pī'-tcūk*, nothing ; i. e. if I should ask a man "what's in that pail?" he might look into it and answer: "*pī'-tcūk*," "there is nothing there"), no, not, nothing. This is perhaps the most useful term in the entire jargon vocabulary. Combined with any adjective it gives the opposite meaning — e. g. *nagorok* = good, *nagorok pītcūk* = bad ; *ellopa* = cold, *ellopa pītcūk* = warm, etc. Combined with *picuktu* it gives such useful phrases as *imek picuktu pītcūk*, meaning "he does not want water," or, "it is water-tight." *opinera sila ellopa picuktu pītcūk*, in summer the weather does not want to be cold ; i. e. is inclined to be in general warm.

pōk'-sak (Esk. *pōk*, a bag, English "sack," a bag ; literally therefore a "bag-bag" or "sack-bag"), bag, sack ; any vessel, e. g. *kapi pōksak*, coffee-pot.

pūb'-laun (Mac. Esk. *pūb'-laun*), baking-powder. An interesting variant is sometimes heard — *pūb'-lau-lū*. This evidently comes from the fact that when an Eskimo gets a sack of flour he always wants baking powder also, and therefore attaches the suffix *-lū* to his word for baking-powder. This has been taken by the trader to be a part of

the word itself, whereas the Eskimo's *pūb-laun-lu* meant "baking-powder also."

pūn'-nī pūn'-nī (Kanaka?), sexual intercourse.

sē'-kē-nē (Mac. Esk. *sir-kīn-nīrk*), sun.

sē'-kē-nē-ō'-ra (Mac. Esk. *sir-kīn-nīr-ō'-yak*, likeness of the sun, therefore, watch, clock), watch, clock.

ca-bak'-to (Pt Barrow Esk. *ca-vūk-tok*, he works), to work, make, do, etc.

cag'-lū (Mac. Esk. *cag-lū(k)-tu'-yu-ak*, he tells lies), to lie, a lie, a liar.

cañ'-a-rū (Pt Barrow Esk. *cuññ-a-rok*, he is strong), strong — as rope, coffee, a man, a dog, etc.

ca'-vīk (Mac. Esk. *sa'-vīk*), a knife, iron.

ca-vī-kō'-ra (Mac. Esk. *ca-vī-kō'-yak*, rice — derivation uncertain; perhaps from *ca'-vī-it*, the scrapings (like sawdust) from wood or ivory when scraped with a knife), rice.

cī-nīg'-a-vīk (Mac. Esk. *cī-nīg'-a-vīk*, sleeping place), bed.

cī'-nik (Mac. Esk. *cī-nīk'-tu-ak*, he sleeps), to sleep, asleep, sleep. *cinik tautuk*, to see while sleeping, i. e. to dream.

cō-pūñ (Pt Barrow *cūk-pūñ*, a gun), a gun, a shotgun.

cū'-na (Mac. Esk. *cū'-na*, what, which, — used ordinarily of dead things, as distinguished from live ones), which, what, where, whither. *cuna elekta illuit?* where are you going? *cuna picuktu?* what do you want?

sī'-la (Mac. Esk. *sī'-la*, the outdoors), weather.

sī-la-ta-nī (locative of *sī-la* + *-la-*, in the outdoors, in the outside), outdoors, outside. *ababa mūgwa sīlatani kaili*, tell them to come out; *īglu sīlatani*, (it is) outside the house.

sī-na'-nī (Inland Esk. *sī-na'-nē* (?), Pt Barrow *sennera'a*, by the side — *sēn-nē-ra-ne* (locative) by his side), by the side of, alongside, along. *nuna sinani kamotik elekta awoña*, I traveled by sled along the coast.

sīs'-sī-rū (Pt Barrow Esk. *sī'-sī-rok*, it is hard), hard, stiff; brittle (although for this last meaning is usually used *kīlamik navikta picuktu*, it wants to break quickly).

sū'-lī (Pt Barrow Esk. *sū'-lī*), more, also, besides. *kapi sulī picuktu awoña*, I want coffee also; or, I want some more coffee.

tai'-ma (Mac. Esk. *tai'-ma*, it is finished, it is enough. *awoña artegi taima?* is my coat finished? *kaukau taima awoña*, I have eaten enough.

taí'-man-na, dai'-man-na (cf. *taí-ma*), this way, so. *awoña taí'manna illipsi cabakto picuktu*, I want you to do it this way.

ta'-kí-rū, ta'-kí-rū-a (Mac. Esk. *ta'-kí-yū-ak*), tall, long.

tañ-ak (Pt Barrow Esk. *tāñ-ak*, whiskey), whiskey, alcohol. [Probably originally of Kanaka or other non-Eskimo origin.]

tar'-rī-ū, tar'-rī-ōk (Mac. Esk. *tar'-rī-ōk*), salt, the sea.

tau'-tuk (Pt Barrow, Inland, and West. Esk. *tau-tūk'-tok*, he sees; Mac. Esk. *ta'-kū-yū-ak*, he sees. This stem is found also at Pt Barrow in occasional use, as *ta-kū-va*), see, visit, hunt, etc. *tuktu tautuk picuktu awoña*, I am hunting caribou: lit. I want to see caribou.

tě-rě-gan'-dī-a, tě-rě-gan'-děr (Mac. Esk. *tě-lě-gan'-ya*, white fox; Pt Barrow form, *tě-rě-gě-nī-ak*): white fox, fox.

tě-rě-va (probably from some West. Esk. form of Mac. Esk. *ta'-dju'-va*, there! there it is!), there! that is enough! enough, finished.

tig-lar-au'-tan (Mac. Esk. *tīg-īl-ar-au'-tak*), sail. *tiglarautan cabakto* (according to context), hoist sail, lower sail, reef sail; to sail (a boat or ship); also to rig a boat or ship with sails, to sew sails, etc.

tig'-lūk (Mac. Esk. *tīg-lūk-tu-ak*, he steals), to steal, to take; a thief. *tiglik awoña picuktu pitecūk*, I don't want to steal, I don't want to take it, I don't want to cheat you (in a trade).

tī-pī (Mac. Esk. *tīpī(k)*, smell—noun form), to smell, to stink; it smells, stinks. Cf. *oktecūhtuk*.

tōks'-ī-pūk (Pt Barrow Esk. *tak'-sī-pūk*, a dark-skinned man), negro.

tūk'-tū (Mac. Esk. *tūk'-tū(k)*, caribou), caribou, deer.

tūk'-tū-lūk (Mac. Esk. *tūk-tū-qlūk*, pork, bacon; i. e. bad deer meat), pork, bacon.

tūk-tū-pūk (Mac. Esk. *tūk-tū-pūk*, horse, cow, etc.), beef.

tū'-pēk (Mac. Esk. *tū-pēk*), tent.

tū-sa'-ra (Mac. Esk. *tū-sar'-yu-ak*, he hears), understand, know; seldom if ever used for "hear" except in combination, as *innuk ababa tusara awoña*, I know that a man is talking (therefore I hear a man talking).

ū'-blū (Mac. Esk. *ūb'-lūk*), day, daylight. *ū'blū kailī pāgmāmmi*, it is just dawning.

ū'-lū (Mac. Esk. *ū'-lū*, the typical Esk. woman's knife), an ulu, or woman's knife.

ūñ'-a-cīk'-cū (Mac. Esk. *ūñ-a-cīk-tū-ak*, it is far off), far. *kimmik nagorok pitecūk uñacīksu elēkta picuktu pitecūk awoña*, when I have poor dogs I don't like to make long trips.

SYSTEM OF COUNTING

JARGON	MACKENZIE ESKIMO
1. <i>a-tau'-sik</i>	<i>a-tau'-tcik</i>
2. <i>ma'-lo, ma'-lë-rð</i>	<i>ma'-lër-ðk</i>
3. <i>piñ'-a-sūt</i>	<i>piñ'-a-tcūt</i>
4. <i>sīs'-sa-mat</i>	<i>sīs'-sa-mat, or sī'-ta-mat</i>
5. <i>taf'-li-mat</i>	<i>taf'-li-mat</i>
6. <i>taf'-li-mat a-tau'-sik</i>	<i>ax-rì-va-nì'-li-xit</i>
7. <i>taf'-li-mat malo, or mallerø</i>	<i>mallerok axrivaniligit</i>
8. <i>taf'-li-mat piñasut</i>	<i>piñatcut axrivaniligit</i>
9. <i>taf'-li-mat sissamat</i>	<i>kò-ññ-ìp'-/ð-at</i>
10. <i>kòl'-lit</i>	<i>kòl'-lit</i>
15. <i>ak-kì'-mì-a</i>	<i>ak-kì'-mì-ak</i>
20. <i>akkip'ia, or in-nū-in'-nak</i>	<i>in-nū-in'-nak</i>
40. <i>malo akkipia</i>	<i>mallerok akkipia</i>
400. (not used)	<i>innuinnak akkipiak</i>

POINT BARROW, ALASKA,

February, 1909.

CALIFORNIA BASKETRY AND THE POMO

By A. L. KROEBER

A RECENT account of the basketry of the Pomo Indians of California by Dr S. A. Barrett is perhaps the most complete study of the basketry of any North American tribe yet published.¹ It both offers opportunity to examine the relations existing between the Pomo and other tribes as regards this art, and supplements and illustrates the conclusions that can be drawn from other studies.

MATERIALS

The materials used by the Pomo in basket making number ten or twelve, but the majority of these are used rarely or for special purposes or in restricted districts. The materials whose use is at all common or of general consequence are five. Of these only one is used as warp in either twined or coiled ware. This is willow. The woof materials are four: the root of a sedge, *Carex*, the bark of the redbud, *Cercis*, the root of the bulrush, *Scirpus*, and the root of the digger-pine. Of these the sedge is the most important, furnishing, as willow does for the warp, woof of both coiled and twined baskets. The redbud furnishes red patterns and is employed chiefly in twined weaves. The bulrush root, after being dyed, provides patterns in black and is used almost entirely in coiling. Digger-pine root fibers are employed principally for the woof of coarse twined baskets.

It shows the influence of convention and habit on technique, that practically all the basketry of the Pomo is made in these five materials, although an occasional different use shows that they possess knowledge of other plants and although their habitat produces many other species which would be serviceable, as demonstrated by the employment of these in regions where different technical habits prevail. The other Indians of California evince a similar

¹ S. A. Barrett, Pomo Indian Basketry, Univ. of Cal. Publ. in Am. Arch. and Ethn., vii, pp. 133-308, pl. 14-30, Berkeley, 1908.

restriction, voluntary it might be called, of their choice of basket materials.

In northernmost California, where only twining is practised, the warp is almost universally hazel, and the woof is root-fibers of conifers, — pine, redwood, spruce, or other species being used according to local distribution. The ornamentation of this basketry consists of a glossy white overlay, which is the shining grass *Xerophyllum tenax*. For patterns in black the stems of the five-fingered fern, *Adiantum*, are used, and for patterns in red, alder-dyed fibers from the stem of a large fern, *Woodwardia*.

A description given by Dr Dixon¹ of the materials used by the northern Maidu also shows characteristic limitation. The northern Maidu make large carrying baskets in the twined technique of northern California, and use for this purpose the same materials. The great bulk of their basketry is coiled, and only two principal materials, willow and redbud, are used. Both of these are employed for both foundation and wrapping. The outer bark of the redbud gives red patterns.

Among the Cahuilla, Luiseño, and Diegueño of southern California the ordinary materials are only three. For the foundation a grass, *Epicampes rigens*, is used. The wrapping consists of either a reed, *Juncus*, or of sumach, *Rhus*. Twined basketry, which is subsidiary, is made entirely of reed.

Information from other tribes is incomplete, but as there is nowhere any indication of a greater variety of materials used, it appears that the specialization followed by the Pomo is the rule and not exceptional.

TECHNIQUES

In the matter of weaves it appears that the Pomo are anomalous in California in practising an unusual variety of technical processes. The total number of distinct processes is perhaps not greater among the Pomo, but whereas other tribes employ regularly and frequently only one or two of the techniques with which they are acquainted, the Pomo practise five processes abundantly and often make baskets of one kind in several weaves.

¹ R. B. Dixon, The Northern Maidu, Bull. Am. Mus. Nat. Hist., xviii, 145, New York, 1905.

The California Indians belong to two groups according as they follow twining or coiling processes of making baskets.¹ There are very few tribes that use both types of technique. The narrow limitation in the employment of materials is therefore paralleled by a limitation of technical processes.

All the Indians of northernmost California, the Tolowa, Yurok, Karok, Hupa, Wiyot, the Athabascan tribes of the middle drainage of Eel river, the Shasta, Northern Wintun, Achomawi, Atsugewi, and Modoc, make only twined work. Generally speaking all tribes to the south of these may be characterized as makers of coiled basketry. There is however a distinction. While the tribes using twining know nothing of coiling, the tribes that employ coiling also twine to some extent. This difference is inherent in the nature of the two processes. The coiled basket is stiffer, closer, and requires much more labor. It lends itself with difficulty to the construction of openwork textiles, such as are desirable or necessary for many purposes. A fish-trap in coiled basketry is practically impossible. A conical carrying-basket can be made as well in coiling as in twining; but such a basket being intended for fire-wood and similar loads, an openwork construction is in every way as serviceable as a close coiled one, besides being much lighter and readily made in one tenth the time. Even among tribes inclined toward coiling, twining is therefore employed for many implements of household usage and for those in which either an open or a ready construction is desired. Carrying-baskets, weirs and traps, seed-beaters, winnowers, and baby-carriers are usually twined by tribes whose more characteristic basketry, such as vessels for water, food, storage, and cooking, is coiled. In short, twined weaves are adequate for most forms and purposes, so that tribes whose cultural circumstances have led them to lean toward twining usually employ no other process. Coiling is not applicable to all purposes, and tribes with a specific bent toward this technique are therefore compelled to use also twining, or other processes, for certain implements.

The tribes of whom coiling is characteristic held all of southern

¹ In those parts of America where plaiting and twilling are followed at all extensively, they appear to tend to supplant twining or coiling, rather than to exist beside them.

and central and part of northern California, much the larger part of the state. The line of separation from the northern region of twining is as follows: In the east it is the boundary between the Maidu and the Achomawi and Atsugewi of the Pit river valley. The Yana employed both processes, their twined ware being of the northern type, their coiling resembling that of the Maidu, but with greater coarseness and crudeness. The majority of Yana baskets that have been collected, and the best made, are twined, so that this is likely to be the typical and best accultured Yana technique. The northernmost Wintun twine, the southern Wintun coil, but the boundary is not precisely known. In the Coast Range the line of division separates the Yuki, who are distinctly a coiling tribe, from the Wailaki. The Wailaki make a crude form of the typical basketry of northern California. Occasional coiled pieces of Yuki character occur among them, but are in great minority and clearly due to Yuki influence.

It is of particular interest that the Pomo, who fall well within the limits of the southern group, hold the two techniques in balance. They cannot be included among the border tribes subject to two influences, for to the north of them are the Yuki, who are as clearly a coiling tribe as any. The twined basketry of the Pomo is also entirely different from the twined basketry of northern California. It must therefore be set down as an independent development, which has flourished side by side with the development among the same people of coiled techniques, without either process greatly influencing the other.

According to Dr Barrett, the coiled basketry of the Pomo is about equally divided between one-rod and three-rod foundations. Single-rod foundations are rare in California, being otherwise found only among the Miwok and Washo. A few pieces have also been obtained among the Yokuts and Shoshoneans adjacent to the Miwok. The Maidu, most commonly the Miwok and Washo, and probably the Wintun where uninfluenced by the Pomo, employ three-rod foundations. The Yokuts and the tribes of Southern California use a multiple foundation. The Yuki use a rod and welt foundation. Neither the rod and welt nor a multiple foundation ordinarily occur among the Pomo.

Five twined weaves are practised by the Pomo: plain twining, diagonal twining, lattice twining, three-strand twining, and three-strand braiding. The two three-strand weaves are not used to make entire baskets, except occasionally in openwork. The characteristic twined weaves therefore are the plain, diagonal, and lattice. Of these plain twining is most frequent, but the two other processes are by no means rare, and, especially in well-finished baskets, dispute the palm with the simpler technique. Lattice twining — which is almost a combination of coiling and twining — seems to be confined entirely to the Pomo, if we except one or two small adjacent groups, such as the Huchnom, of unrelated linguistic origin but of Pomo culture. Diagonal twining, which is a characteristic Shoshonean process, is of secondary importance in California outside of the Pomo. A sporadic Yurok basket made entirely in this weave has been described.¹ The University of California museum contains also one or more pieces each from the Wiyot, Athabascans of southern Humboldt county, Yana, Chumash, and Mohave, though the normal weave of all these tribes, except possibly the last, is simple twining. The Chemehuevi, who are Shoshoneans, make caps and carrying baskets; and the Shoshonean Mono, with their neighbors the Miwok, Yokuts, and probably Washo, make many or most of their winnowers, beaters, carriers, and cradles in openwork and half-openwork diagonal twining. Among all these tribes, however, diagonal twining is not employed for ordinary baskets as by the Pomo. The Pomo have developed a distinctive type of pattern for their diagonal-twined baskets, which in its general diagonal arrangement differs from the usually horizontal arrangement on plain-twined baskets.²

The plain-twined Pomo basket differs radically from the twined basket of northern California. It is either nearly flat or quite deep. The typical basket of northwestern California, while its walls are vertical, is comparatively shallow. The Pomo never use the overlaying which is the sole means of producing patterns in northern California. Pomo designs are normally in redbud. Designs in northern California are in white on a neutral background, or in black

¹ Univ. Calif. Publ. in Am. Arch. Ethn., II, 110, pl. 17, fig. 2, 1905.

² Barrett, *op. cit.*, pl. 16, 17, 22.

or red or both on a background of overlaid white. The texture of the two wares is thoroughly different. The distinction is apparent even in details, such as that the northern people trim their warp ends off flush with the upper course of woof twining, whereas the Pomo habitually allow them to project evenly for a short distance. On the whole Pomo twining is firmer and more closely set than that practised in northern California, a difference which may perhaps be ascribed to the experience which every Pomo woman has in the necessarily close technique of coiling.

As illustrating the Pomo balance between different weaves, and the apparent desire to maintain one beside the other instead of permitting one process to develop to the exclusion of others, it appears that conical carrying baskets are made both in plain twining and in diagonal twining; storage baskets in plain twining, lattice twining, and diagonal twining; various baskets of the same shape and use in both one-rod and three-rod coiling; and cooking baskets and flat baskets in plain twining, diagonal twining, and lattice twining.

Dr Barrett describes also Pomo wickerwork. The use of this is confined to handled seed-beaters of circular form. Wickerwork is comparatively rare in North America, though there are well-known forms in the Southwest. A wickerwork seed-beater from the northwestern Maidu is described by Dr Dixon.¹ This piece is from Butte county, in the original habitat of the Maidu. A number of Maidu from this region have long lived on Round Valley reservation, in close association with Pomo of the northern and eastern dialectic divisions, and some of these Maidu have returned to their old home. It is therefore possible that the specimen in question is due to modern Pomo influence even though collected on Maidu soil. If, however, as seems more likely, it is an old Maidu type, the practical identity of the Maidu and Pomo wickerwork forms makes it highly probable that the Wintun in the intervening territory also employed this technique in the seed-beater. In that case wickerwork would have a wider distribution in California than heretofore believed. The Mohave and Diegueño use soft-warped stiff-woofed wickerwork in the hoods of cradles.

¹ Bull. Am. Mus. Nat. Hist., xvii, 188, fig. 47a, 1905.

DIRECTION OF PROGRESS IN MANUFACTURE

In twined Pomo baskets the general course of the woof turns from right to left, as one looks at the basket from above. Dr Barrett's explanation is illuminating. In twining, the long projecting warp rods at the top render it necessary for the weaver to hold the bottom of the basket toward her. The left hand firmly grasps the warp and keeps in place the just inserted woof-strands, while the right hand manipulates the twining of the pliable woof. The progression is therefore to the weaver's right, which corresponds to the left as one looks into the basket.

The same direction of the twining woof is followed practically all over California, as by the Yurok, Karok, Hupa, Tolowa, Wiyot, Wailaki, Modoc, Wintun, Yana, Achomawi, Yuki, Wappo, Miwok, Yokuts, Mono, Chemehuevi, Chumash, Cahuilla, and Luiseño. The only exceptions found are the rude openwork Diegueño baskets, which twine in the opposite direction from the identical Cahuilla and Luiseño pieces; the close-woven flat baskets of the Yurok-Hupa territory; part of the baskets of this type made by the Modoc; and certain flat coarse openwork baskets of the Wappo. It is evident that if a basket is held reversed while in manufacture, with the bottom up or turned away from the weaver, the course of the twining when it is finished will be the reverse of the usual while the process of manipulation remains the same. The flatter the basket, the less difference does it make, in working on it, which side is held above, and the less reason is there, when it is finished, to regard one surface as specifically the inner one. In fact an essentially flat basket with a certain amount of curvature can be held and worked like others, and when finished turned inside out by a thrust in the middle. This is actually done by the Yurok. With the exception of a few unexplained Diegueño pieces, the twining of California therefore always turns from right to left, as one looks into the basket, or progresses from the maker's left to right, and contrary cases are only nominally or apparently such.

Outside of California, the direction of twining seems to be usually the same, as among the Apache and in the Puget Sound region. The baskets of the Alaska Eskimo, the majority from the Aleutian islands, and a minority among the Haida and Tlingit,

however turn abnormally or clockwise. A number of baskets from the Haida-Tlingit area turn one way on their flat bottom, and in the opposite direction on their sides. It is interesting to note that Aleut baskets are described as habitually, and Haida baskets sometimes, suspended bottom up in manufacture; so that the abnormal or reverse direction of twining in this northern region seems to be the result merely of a reversed position of the basket, the weaver following the usual manipulation in her work. It follows that Dr Barrett's explanation of the direction of twining is to be accepted as of general application. It also follows that the absolute uniformity of this direction among most tribes argues for a very rare or weak natural development of left-handedness, or its almost total suppression by right-handed custom. No apparatus being required in weaving, and the product being identical whatever the direction of the twining, there is every inducement for a left-handed woman to work as is natural to her. It seems as if tribal habit or blind imitation influenced the Indian basket-maker as much and as unreasonably as it influences us in writing, sewing, riding, and shooting.

The direction of Pomo coiling is the reverse of that obtaining in twining. Dr Barrett explains this fact as also due to the process of manipulation, the left hand being engaged in holding the loose end of the warp, toward which the right advances the woof. His suggestion as to the reason for the direction of coiling is however perhaps less compelling, since the nature and position of the single projecting warp are such as to allow the worker more readily to hold the bottom of the basket either toward her or away from her. The former is perhaps the more natural position, especially in baskets approaching a spherical shape, and the corresponding direction of the coil is the prevalent one in California.¹ Nevertheless nearly all tribes except the Pomo coil at least some ware in the opposite direction, and in some regions outside of California this opposite direction is the rule. The position of the basket while in manufacture is probably the sole cause of the difference in coil-direction; yet it is evident that if such is the case mere industrial habit or

¹ Univ. Calif. Publ. in Am. Arch. Ethn., VIII, 50, 1908.

tribal invention must largely determine this position, since with the Maidu and Miwok only flat baskets, with the tribes of central and southern California only spherical or constricted baskets, with the Yuki all baskets of whatever shape, and with the Pomo no baskets, progress contra-clockwise.

DECORATION

The general scheme of pattern arrangement followed in Pomo baskets seems to depend in the main on the weave employed. In twined baskets a horizontal or banded arrangement is by far the most common, while a diagonal arrangement occurs in a minority. Dr Barrett estimates the average frequency of horizontal, parallel diagonal, and crossing diagonal arrangement at 70, 25, and 5 per cent. As has been said, the horizontal arrangement occurs usually in plain twining and lattice twining, while the diagonal arrangement is characteristic of the diagonal-twined weave.

In coiled baskets there is a much greater variety of arrangement. Dr Barrett gives the following proportions: horizontal, 40; parallel diagonal, 30; crossing diagonal, 10; vertical, 15; individual or separate groups of patterns, 5. It is apparent that these proportions are not at all related to those obtaining in twined basketry. Considering the parallel diagonal and crossing diagonal arrangements as fundamentally the same, it may be said that diagonal and horizontal dispositions of designs are of about equal frequency in Pomo coiling, and that a vertical or individual arrangement, while less common than either, is also characteristic.

The typical Maidu pattern arrangement is diagonal, either parallel, crossing, or zigzag. In southern and central California the prevailing arrangement is horizontal, a secondary one vertical, a diagonal arrangement of any sort being uncommon. As these are regions of coiling, it appears that pattern-arrangement is not altogether dependent on technical motives. The shape of ware is undoubtedly a potent factor. In the case of twining this is evident. In northwestern California, where baskets are mostly low, a diagonal arrangement would not be effective, and a horizontal arrangement prevails; in northeastern California, where technique and materials are the same, baskets are normally higher, and a diagonal

disposition is customary.¹ Nevertheless there are many instances where the arrangement of patterns is clearly the outcome of neither technique nor shape, but of esthetic convention.

As regards the Pomo, it is almost certain that independently of technical influences and of the factor of decorative area as determined by shape of the basket, a greater variety of pattern arrangements is found than with other tribes.

In several other respects Pomo basketry shows specialization. According to Dr Barrett the Pomo were in aboriginal days the only California people to attempt the complete ornamentation of baskets with feathers. Feather decoration is found as far south as the Yokuts, but the feathers occur only on part of the surface of the basket. Some of the tribes immediately adjacent to the Pomo, such as the Wappo, Yuki, southern Wintun, and coast Miwok, used feathers, but never covered entire baskets. Owing to trade demands they have now in some cases learned to do so, but their work is still inferior to that of the Pomo.

The Pomo are perhaps also unique in never completely encircling a basket with a design. If the pattern is a horizontal band, a break called *dau*, *ham*, or *hwa* must be left in it. If this is not done it is believed that the maker will be afflicted with blindness. This break in the encircling pattern is familiar from the Southwest, but has not been reported from any other California tribes, many of whom, such as the Hupa, Yurok, Yokuts, and Cahuilla, frequently employ continuous and uniform bands of design. Most flat Yuki baskets with a pattern of simple encircling bands, but usually no others, show a break in the design, but its significance has not been reported, and it does not seem to have been the same as that of the *dau*.

A peculiar practice of the Pomo is also to insert in a coiled basket a few wrappings of the orange-colored quills of the yellow-hammer, as a preventive charm, in all cases in which a woman works on a basket during her menstrual period.

Finally may be mentioned the *shaiyoi* or initial design, the introduction of which is also connected with religious beliefs.

¹ In northwestern California also, storage baskets and other tall forms frequently show diagonal and even vertical pattern arrangements.

So far as known, the Pomo and the adjacent tribes of the same culture are the only ones among whom any basketry is made by men. Men make fish traps and weirs, baby-carriers, coarse openwork baskets for carrying and storage, and shallow openwork forms. In general most openwork is made by men. Dr Barrett notes that all close-woven baskets are made with a downward turn of the woof-strands, and most openwork baskets are made with an upward turn. As the men make no close-woven baskets, and the women few in openwork, it may be said in general terms that the men employ one direction and the women another in turning the woof in twining.

NAMES OF DESIGNS

In the matter of interpretations of names attached to designs, Dr Barrett's work is particularly full. He obtained explanations of more than eight hundred designs, appearing on some three hundred baskets. As most of these patterns were explained by a number of informants, the total number of interpretations was several thousand. Such a mass of information on this phase of basketry has probably never before been gathered among one group of people, so that the conclusions become of unusual significance. If anyone still cherishes the belief that patterns were put upon baskets by the California Indians from religious or symbolic motives, or that their significance is ceremonial or poetical, the idea will be dispelled by a glance at Dr Barrett's data, in which the thousands of monotonously commonplace and concordant names are unbroken by even a single instance of symbolic interpretation.

Among Pomo speaking three different dialects or languages, Dr Barrett encountered 54 different names of designs. Omitting 2 that are doubtful and 6 that are representations of objects introduced by Europeans, there remain 46. Ten of these are pairs, *deer-back*, for instance, being the name in one dialect of a design which in another dialect is called *wild-potato-forehead*. Of the 46 undoubted aboriginal design names only 33 occur in the northern dialect, 24 in the central, and 22 in the eastern. Twenty of the 46 names are however rare. Of the 26 in common use, 20 are found in the northern dialect, 17 in the central, and 14 in the eastern. The number of common elementary design names among any one group of Pomo people is therefore about 15 to 20.

This result agrees with determinations made among other tribes of California. Among the Yurok there are only about 18 names in customary use, though the addition of designations that are rarely employed brings the total to about 30. These rare names are perhaps in part individual interpretations, in part survivals of obsolete names, and in part introductions of terms which belong to neighboring tribes and have not yet taken firm root. Among the Hupa and Karok the number of names appears to be about the same. The total of design names, common and rare, found among the three northwestern tribes, is about 45, or practically identical with Dr Barrett's total for the three Pomo groups. The Yurok, Karok, and Hupa speak languages that are entirely unrelated, but their territory is more restricted than that of the three Pomo divisions, and their culture is at least as uniform. Conditions are therefore comparable.

Dr Dixon encountered about 40 different design names among the Maidu, who belong to three divisions which are linguistically about as divergent as the three Pomo groups. Their territory is more extensive and their environment and culture at least as diverse. Dr Dixon's total therefore also agrees well with Dr Barrett's. It seems probable that if only the design names in ordinary use among one division of the Maidu had been listed by him, the number would have fallen between 15 and 20.

Dr Barrett classifies the 26 common names of Pomo design elements as follows: names of animals and parts of the body, 12; plants, 2; inanimate objects, natural and artificial, 4; geometrical, 4; miscellaneous, 4. It should be observed that in many cases names of animals and parts of the body are combined. *Deer-back*, *turtle-neck*, and *quail-plume* occur, but neither *deer*, *turtle*, and *quail*, nor *back*, *neck*, and *feather* alone are found. This is in accord with the non-realistic and unsymbolic interpretation of the designs. Apparently names suggested by the designs have been applied to them. If there had been an original attempt at representation it is almost certain that deer, birds, turtles, horns, or feathers would have been shown and so named. No one, civilized or uncivilized, could have any motive for picturing the back of a deer or the neck of a turtle.

The relative frequency of these classes of names is about the

same among the Pomo as among other California tribes. Almost everywhere names denoting animals or parts of the body are most numerous. The principal divergence occurs in northwestern California, where spatial and dynamical ideas, corresponding to Dr Barrett's geometrical names, are relatively more frequent, and among the Maidu, where names derived from plants are most numerous after names of animals and body parts.¹ Spatial or geometrical terms, such as *zigzag*, *striped*, and *spotted*, occur among all tribes, and are often of frequent usage. That they are not proportionately as numerous with the Pomo as among the northwestern Indians, is probably due to the fact that by the Pomo most conceptions of space and position are expressed by qualifying additions to the elementary design names.

Characteristic animal design names among the Pomo are *deer-back*, *deer-teeth*, *turtle-neck*, *turtle-back*, *goose-excrement*, *grasshopper-elbow*, *killdeer-eyebrow*, *quail-plume*, *crow-foot*, *bear-foot*, *bat-wing*, and *sunfish-rib*. Names of animals not connected with parts of the body are much less numerous and describe only small animals: *ant*, *butterfly*, *mosquito*, *starfish*, *water-snake*. Characteristic geometrical terms are *zigzag* or *crooked*, *wavy*, *spotted*, *dot*, *small figures*, *little pieces*. Typical names of objects are *arrowhead*, *string*, *stretcher*, and *tattoo*.

In usage, however, such names of designs are rarely employed alone. They are almost always combined with a descriptive or qualifying term, such as *barbed*, *pointed*, *short*, *round*, *large*, *downward*, *bulging*, *blank*, *white*, *half*, *both*, *single*, *imperfect*, *resembling*. These qualifying terms are nearly as numerous as the elemental design names. Dr Barrett classifies them according as they relate to form, direction, position, size, color, number, and quality.

The design name of the Pomo, whether qualified or used alone, however describes only the unit or element of a pattern. It is a simple figure of a certain shape. The pattern may consist of a repetition of this element, or of combinations of two or more elements. The pattern and the design element must be sharply distinguished.²

¹ Univ. Calif. Publ. in Am. Arch. Ethn., IV, 154, 1905.

² For the distinction between pattern and the sign element, with particular reference to their names, among the tribes of northern California, see Univ. Calif. Publ. in Am. Arch. Ethn., IV, 155, 1905.

In exact usage the Pomo always distinguish them. The names that have been discussed designate elements. Pattern names are almost always longer and more complex. This is not only because of the qualifiers of names of design elements, but because in many cases the interrelation of several elements in a pattern is made clear. There is therefore a third class of terms which may be described as qualifiers of pattern names. Of these Dr Barrett has found 44, though a number of these occur in only one or two dialects of the three examined. Among the most common are: *crossing, meeting, collected, on both sides, connected, close in a row, and, near, on, among, along, in the middle, tied, scattered, separated, leading, following.*

The typical pattern name among the Pomo is therefore quite complex, and at the same time exactly descriptive of the pattern to anyone acquainted with the significance of the names of design elements, qualifiers of design elements, and qualifiers of patterns. Typical names are:

Arrowheads in-the-middle zigzag stripe.

Design empty in-the-middle ants close-in-a-row.

Deer-back arrowhead crossing.

Arrowhead-slender band.

Water-snake and arrowhead-barbed.

Ants arrowhead crossing in-the-middle.

Spotted in-the-middle string stripe.

Wild-potato-forehead on-both-sides arrowhead.

It is evident that, allowing for convention in the use of the terms designating elements and their relations, these pattern names are sufficient to convey an accurate description of any pattern. A Pomo woman fairly conversant with the art of basket making, and who like every member of her tribe sees baskets in daily use in every household, could make or duplicate any native pattern described to her. Such a practical purpose, and not any religious or symbolic motive, and not even to any considerable degree an artistic impulse, seems to be at the base of these design and pattern names. In other words they are conventional names of conventional figures, corresponding to our diamond, horseshoe, cross, star, crescent, fleur-de-lys, meander, and egg-and-dart. If there is a difference between the Pomo and ourselves, it is that among the

Pomo, so far as can be observed, these conventional figures give no evidence of having or of ever having had a symbolic significance. Among ourselves heraldry and religion have in some cases read deep significance into simple figures, and in other instances have given to symbols a popularity which in turn has led to their being employed for purely decorative purposes. It is however to be observed that the designations even of conventional symbolic figures are not symbolic but descriptive. The fleur-de-lys is named for the flower, not after the dynasty of which it is the emblem. The horseshoe itself, not the good luck which it typifies, gives name to the figure. The Pomo in their basket decoration are less inclined to symbolic or religious interpretation than we are in the ornamentation of our architecture, implements for household use or display, and dress. But in both cases there is no evidence that any decorative figure originated directly from a creative symbolic impulse. Symbolism can only interpret what is already given.

The development of subsidiary qualifying terms was probably carried farther by the Pomo than by other California Indians. It is not possible to speak with certainty on this point, no inquiries even approximately as extended as those of Dr Barrett having been made elsewhere. To a casual inquirer Pomo women give only the name of the most conspicuous element in a pattern, and in comparison with Dr Barrett's painstaking effort inquiries among other tribes have been casual. It is not unlikely that an equally thorough investigation elsewhere would reveal something of the same system of descriptive adjuncts as among the Pomo. At least some approaches are found in northwestern California, where several subsidiary qualifying terms have been recorded, such as Yurok, Karok, and Hupa *small-in-the-middle, large sharp-teeth, sitting-in-the-middle, sharp different, together, it-encircles, tataktak ascending, snake-noses on-top-of-each-other, they come together, worm goes-round, one-on-the-other-its-scratches*.¹ It is however in any case likely that descriptive qualifiers are more developed among the Pomo than among other tribes because Pomo patterns are in the main more complex.

¹ Univ. of Calif. Publ. in Am. Arch. Ethn., II, 126, 127, 135, 137, 138, 139, 141, 142, 1905.

GENERAL CONCLUSIONS

All in all it appears from Dr Barrett's careful study that the basketry of the Pomo is unique in many aspects. It shows no connection with the basketry of northernmost California and Oregon. It possesses very little relation with the basketry of the Yuki immediately to the north. It is quite different from the basketry of the Maidu to the east. Nor does it show any direct contact with the industries of the tribes of central and southern California. The Pomo are the only California people among whom the arts of twining and coiling basketry are approximately in balance. They are nearly the only people among whom different forms either of coiling or of twining are employed side by side for similar or even identical purposes and with about equal frequency. They regularly and abundantly practise a greater number of radically distinct technical processes of basket-making than any other tribe. They are the only people in the state among whom men have a share in the making of baskets, among whom the symbolic break in the design and symbolic insertion of yellow-hammer feathers were practised, or the symbolic initial design was used. They carried the art of ornamenting baskets with shell beads and feathers to a much higher perfection than any other group. They were either alone in using wickerwork, or shared the technique with but a few tribes. Their general disposition of patterns on the surface of baskets displays a greater variety than is found elsewhere, both in respect to the relation of such arrangement to technical processes and irrespective of it. They show a wealth of subsidiary terms descriptive of the form, position, and relation of design elements and their combination in patterns, to which but scant parallels have as yet been found elsewhere, and which it is unlikely any other California people possess in the same degree. In short, it is evident that the art of basketry in all its phases underwent an independent, special, and uncommon development among the Pomo, which is displayed in an unusual wealth and variety of industrial, technical, and artistic functions.

On the other hand it appears that certain traits are common to the art of basketry among all the tribes of California. Among

the most conspicuous of these features are the use of only a small proportion of available materials ; a selective specialization in certain types of technique to the exclusion of others ; a system of ornamental pattern arrangement determined by esthetic convention or artistic history as well as by technique and shape of the decorative field ; a close restriction of the number of names for pattern elements ; and a complete absence of religious or symbolic significance from the decorative designs. The conclusion which these facts perhaps most impress, is the tremendous predominance of unmotivated custom and habit over conscious utilitarian, artistic, or religious purpose.

UNIVERSITY OF CALIFORNIA,
AFFILIATED COLLEGES,
SAN FRANCISCO.

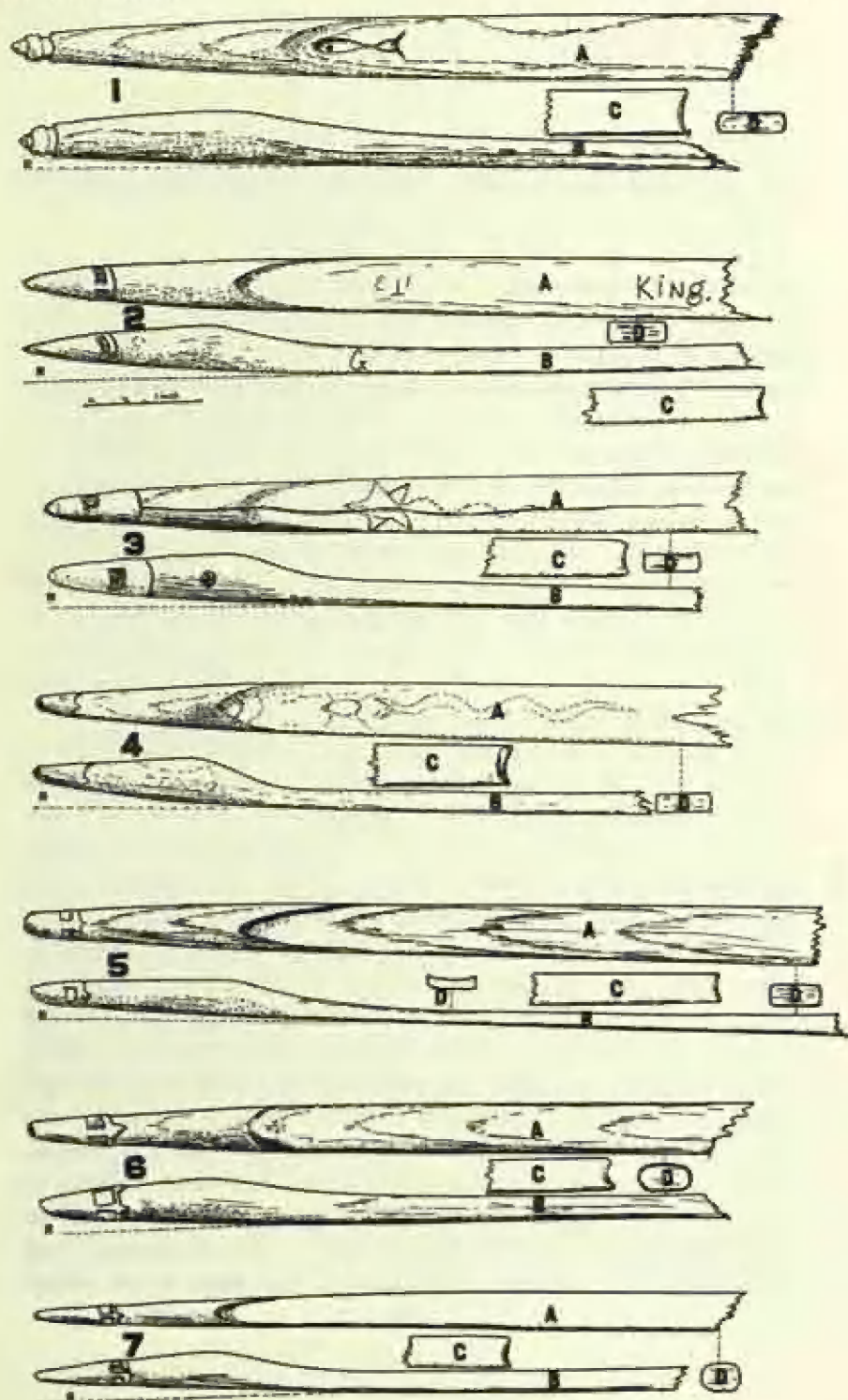
SNOW-SNAKE AS PLAYED BY THE SENECA-IROQUOIS

By ARTHUR C. PARKER

THE following notes on the game of snow-snake as played by the Seneca-Iroquois were recorded during the winter of 1905-06, at which time the writer was engaged in making ethnological studies among the various Iroquois tribes for the New York State Library and the New York State Museum.

With the male Seneca snow-snake is the most popular outdoor winter pastime, finding equal favor with the Christian element and the "pagan" party. Missionary effort has been directed toward discouraging the sport, because of the gambling which seems an indissoluble part of it. The game is a simple one, and well known to ethnologists, the aim being to throw a long smooth stick, called a snake, *gawasa*, through a trough in the snow a greater distance than one's opponent.

The snow-snake is a smooth, polished, flexible stick, from five to nine feet in length. The average stick is an inch broad at the head, and tapers down to nearly half an inch at the tail or finger end. In thickness it tapers from half an inch in the middle to a quarter of an inch at the tail. The head, *gagon'da'ge*, is conical in shape, or approximately so, and is usually an inch in diameter at the base, where it is beveled to the plane of the body. The head is slightly upturned, like the fore part of a skate-runner. The pointed end, *gauc'gowa*, is tipped with lead, grooves being cut in the wood and melted lead poured into a cone of paper or rawhide previously wrapped about the nose of the snake; the lead hardening, the paper or skin is unwrapped and the excess of lead is trimmed down with a knife or a file. The metal end serves the double purpose of protecting the head from becoming blunted or split, and of giving greater momentum to the stick when in motion. When no lead or pewter is to be had, the nose is roughly hewn out and then charred in a fire. The charred wood is scraped off, more definite shape given, and the charring repeated. This charring is



TYPES OF SENECA SNOW-SNAKES IN THE NEW YORK STATE MUSEUM

A, top view. B, side view. C, finger end. D, cross-section at position indicated.

EXPLANATION OF PLATE XI

<i>Number</i>	<i>Length</i>	<i>Point of balance from tip of head</i>		<i>Weight</i>	<i>Wood</i>
1	69 inches	29	inches	11 ounces	Ash
2	97 "	41	"	18 "	Maple
3	95 "	40	"	17 "	Maple
4	72 "	31 ½	"	9 "	Ash
5	82 ½ "	37	"	12 "	Hickory
6	84 "	47 ½	"	13 "	Hickory
7	75 "	30	"	9 "	Maple

said to harden and give greater weight to the wood. The end or tail of the snake, *gʔtʔwʔ gägeʔ*, is made slightly concave to afford a better finger-hold. Snow-snakes are made of various kinds of hard wood, such as maple and walnut, it being believed that some woods are better adapted to certain kinds of snow. This special knowledge is kept secret by the various experts in the art of snow-snakery. Some woods are used exclusively for throwing in light feathery snow, others for ice, others for crusty snow, and still other varieties for soft melting snow. The selection of proper sticks is therefore a matter of no small importance. Each stick has some distinctive mark by which its owner may recognize it among others. Three sticks constitute a set for throwing, although a complete set for all conditions of snow often contains twelve or fifteen. Long cloth bags, divided into compartments just wide and long enough for the sticks, are used as cases. The set of sticks is sheathed in the divisions of the bag, and when not in use the case is rolled up, tied, and stored in a place where the snow-snakes will not warp or otherwise deteriorate.

A level, though sometimes a slightly sloping, tract of ground, usually by some roadside, is selected for a track or trough, *gawonʔgo*. A smooth-barked log, from 10 to 18 inches in diameter, is dragged in a straight line through the snow for a distance of from 90 to 120 rods, accord-



FIG. 56.—Short snow-snakes used on the Tonawanda Seneca reservation. Each snake is 30 inches long.

ing to the slope of the ground. The process is repeated until a smooth icy trough from 10 to 18 inches deep is made. The snow is stamped down at the end selected as a starting point, and back for a distance of a couple of rods, and strewn with fine chips or ashes to prevent slipping. The mouth of the trough, *hadī-yē'da' kwa*, is built up higher than the main body of the track, and is also somewhat wider.

The game may be played by two contestants or by organized teams. During the midwinter festival, *Gānā'yās'ta'*, when the two phratries or rival brotherhoods or clans seek to outdo each other in everything, phratry teams are organized. The clans of the Wolf, the Bear, the Turtle, and the Beaver enter their best players against the skilled experts of the clans of the Deer, Snipe, Heron, and Hawk. Ordinarily teams are made up with no reference to clans, the best players from a reservation or section of a reservation organizing to outdo all comers. In the game between the rival phratries, officers, *honen'diont*, are selected as collectors of the stakes. Each collector carries a pole over his shoulder, and articles to which the owner's name is attached are thrown over it. If live stock is wagered, a feather or a small bunch of hair is tied to the pole, and is redeemable in chicken or pig upon presentation to the party whose name is tied to the feather or hair, in event of that party's clan losing in the contest. Rival collectors meet and endeavor to match articles, value for value. Another round of visits is sometimes necessary to cover heavy betting on one side.

At the beginning of the snow-snake game the rival teams cluster about the clear space at the mouth of the track. The caretakers, *hawas'o'gas*, unroll the bundle of sticks and place the outspread bag on a low rack made by placing four crotched sticks, set on the points of a rectangle, as upright supports for horizontal cross-pieces.

Governed by the condition of the snow, the *hawas'o'gas* selects the special sticks for his principal and rubs them with a skin or cloth pad which has previously been saturated with some "secret" compound, *ononk'gwashet*. Various kinds of gum, wax, tallow, and oil are used, the kind rubbed on the stick depending on the condition of the weather and the snow. These "medicines" are employed to render the stick as smooth as possible and to overcome the

peculiar kind of friction exerted by the various kinds of snow. A good snow-snake is said to have good "stuff" in it, "stuff" referring to the kind of medicine, or "*swagum*," that has been rubbed into it. In ordinary packed snow, when the temperature ranges about 20° F., for example, the snow-snake doctor rubs the stick with refined beeswax or with spermicetti; for wet snow an extra dressing of turkey or duck oil is used. The compounds vary with the different *hawaz'ô'gās*, each employing what his experience or imagination directs as best. A good *hawaz'ô'gās* commands a liberal fee for his services.

At each game there are from two to four umpires, *hanontgā'ot*, whose duty it is to watch the snakes of their parties as they glide over the track and to mark the points where they stop, *ōdēt'hit*, with a marker, *yēō'dak'wa*.

At a time agreed upon the umpires exclaim, "*Dadiwasaye'!*" and one of the principals, *hē'odyes*, takes a stick from the *hawaz'ô'gās*, and going back a rod or two from the mouth of the trough, grasps his snake by the tail, his thumb and middle-finger grasping the sides two or three inches from the end, and his index-finger bent and tightly pressed against the grooved end. The palm of the hand of course is turned upward. Dashing forward with every trained muscle in play, he hurls the snake into the trough, using all his skill to throw accurately and steadily. Just before he drops the stick, about the time when the player draws his arm back for the throw, his opponents jump toward him, making threatening gestures, and shouting in derision and discouragement, "*Toi'sko'!*" "*Owāda'go'!*" "*Jaguk'!*" "*Shā'!*" "*Whoā'hō'!*" and other words of like import, hoping to unsteady the player by their clamor. To actually touch him, however, is not permitted. The snake, striking the track in proper form, speeds on swiftly, and the runners, *hono'gāot*, are on instant guard lest anyone impede its progress. In its swift passage through the trough, the flexible stick twists and bends in truly snake-like fashion, its upturned head adding greatly to the resemblance. When it finally stops, the runners mark the point with a marker, *yēōndak'wa*. The opposing principal then may throw his stick. His watchers have been alert ever since the first snake reached its goal, lest a lump of ice or snow

be cast into the track to impede the speed of their principal's stick. When the second snake has stopped, the first stick is lifted from the track and the one which has gone the greater distance declared the winner of the point. The object of leaving the first snake in the track is two-fold: it may stop the almost spent stick of the rival, but if, on the other hand, the rival's stick is far from spent, the first stick may have its tail split. The second stick, however, may pass the first without touching it. In some games the sticks are taken from the track immediately after being marked. Three



FIG. 57. — The snow-snake game. The drawing depicts a *hódi's* in the act of throwing a snow-snake at one of the midwinter clan games at Newtown, Cattaraugus reservation, Erie county, New York.

out of five points constitute a game between two individual players. A snake is in play immediately upon leaving the hand, and in case of an accidental or a poor throw, there is no retrieval. The rules of the game forbid anyone save the thrower, the runners, and the "doctors" to touch a stick. Should a person, especially a rival *hawas'o'gds*, touch one's stick and be discovered, the cry of "*Dawon'wazawak!*" would be raised and the offender disqualified or otherwise punished. The Seneca exclamation quoted means

"he has poisoned the snow-snake." All the other opponents on the teams match their skill, and the team winning the greater number of points wins the game, and the poles of stakes or the rolls of bills, as the case may be, are handed over to the winning side.

After each stick has been thrown, it is carefully rubbed with a dry skin and restored to its case, another stick designed for the same kind of snow being drawn from the bag for service.

Through some inaccuracy in poise, through inexperience or nervousness, the player sometimes throws his stick improperly. If it twists sharply as it leaves the hand it is apt to bound from the track and run into the softer snow outside. If it is not thrown at the proper angle its head may run into the snow when it strikes the track, that is, "spear the track." This accident brings forth many sarcastic jests, such as, "Are you afraid the trough will get away?" "What's the matter, — trying to nail down the snow?" "Thinks he's spearing fish!" etc. If the snake is not thrown with precision, it may not strike the track at all, but scud by outside, though possibly parallel with the track. Sometimes the snake turns turtle and slides on its head and back. This of course spoils the throw. A small lump of ice or of snow, or even a hump in the track, may cause the snake to leap from the trough and run wild outside. Even good players have their share of accidents.

Another form of the game is called *deyáthā gwát*, or the "pushing game." Two players, having but one stick between them, pace off a certain distance, say 200 yards, on each side of a given point in a level road. Player A and player B each takes a position at a given distance from the mark. A, having the stick, throws toward the central point and in the direction of B, coming, for example within ten yards of the latter. This is B's advantage. He advances ten yards to the snake, picks it up, and throws toward A, passing him, for example again, by five yards. A must therefore retreat from the central point five yards, take the stick, and throw again. If he comes only within 25 yards of B, B may advance toward the central mark to the snake and throw it back to A. If B is the better player, he can gradually push A back until he, B, stands upon the central mark and becomes the winner, when the game is

ended. Two well-matched players sometimes play for hours, one gaining inch by inch until the mark is reached.

Good players are able to throw a snow-snake on a level track for a distance of from 300 to 400 yards, and exceptional players claim greater distances. The distance increases, naturally, when slightly down-grade tracks are used.

The Tonawanda Seneca use snow-snakes 30 inches long, claiming greater distance records as a reason for their use. The discovery was made, they assert, through the breaking of a famous old stick, which, rather than discard, the owner used with surprising results. This discovery was made, I was informed, five or six years ago, and henceforth dozens of good old snow-snakes had their tails amputated by curious experimenters. The shorter snake requires a different method of throwing. There are two specimens of the short snow-snake in the New York State Museum, which I collected in 1906 from the Tonawanda reservation. Of the larger sticks, the State Museum has more than twenty of various woods, weights, and lengths.

NEW YORK STATE MUSEUM,
ALBANY.

SOME OBSERVATIONS MADE IN NORTHWESTERN SOUTH DAKOTA

By GEORGE F. WILL.

THIS paper is a record of a few observations made on a trip from Bismarck, North Dakota, to Slim Buttes and Cave Hills in South Dakota. The route led in a southwesterly direction from Bismarck to the forks of Grand river, thence almost westerly up the south fork until Slim Buttes were reached. These buttes lie about 60 miles from the boundary of Montana and South Dakota, and about 40 miles from the boundary of North Dakota and South Dakota. To the northwestward of them, and just south of the line between the two Dakotas, lie Cave Hills, some 35 miles away. Near the Montana line to the westward flows the Little Missouri river, along which the Bad Lands extend from the North Dakota and South Dakota line almost to the point where the river empties into the Missouri.

The whole region traversed was long claimed by the Sioux, and the Standing Rock reservation at one time included the land within a few miles of the eastern side of Slim Buttes. Slim Buttes and Cave Hills formed a veritable paradise for the hunter in the old days, as also did the Bad Lands proper. Elk, deer (both black tail and white), mountain sheep, and porcupine abounded in the hills, while the more level stretches teemed with antelope. Here also came Indians from all the Missouri river tribes to get the war-eagle feathers for their headdresses; consequently this region is well known to the neighboring tribes, and many of its places are localized in their traditions. Several Indians have told of gold found in hidden creeks, among others in a creek flowing northward from Eagle's Nest hills into the north fork of Grand river. Again the same story is told of a small creek at the northern end of Slim Buttes. Here, too, they relate how their fathers dug lead out of the creek-bed.

It seems probable that there should be very much of archeolog-

ical interest in the region, but, so far as known to the writer, it is almost a virgin field for this kind of exploration. The trip taken through the region was a rather hasty one, yet enough was observed to arouse a desire for further research.

The first archeological feature noted was the presence on hills here and there of cairns, some only two feet high, others four or five feet, and always roughly cylindrical in shape. Usually these cairns are in pairs, either on neighboring hills or on opposite ends of the same ridge. With the party was Mr Otis A. Tye, at one



FIG. 58. — The general character of Slim Buttes.

time a trapper and hunter, who speaks the Dakota language. Mr Tye says that he has often questioned the Indians as to the significance of these cairns, and the answer has always been that they mark points from which water can be located. This explanation held true in every instance in which it was tested; in fact each pair of cairns seems to give the most complete outlook possible for many miles: one hill gives a perfect view for a half circle or more, and the other completes the circle.

The first cairn observed stands alone on the crest of a ridge, known as the Oak Coolie (*coulée*) hills, only a couple of hundred yards

from the old Black Hills trail. This one commands the view of a full circle, consequently there is not a second cairn. The second observation hill noted is about three miles northeast of Flasher, North Dakota, where extends a ridge, some 300 yards long, with a cairn at each end, built evidently of stones picked up near by, as the hill is very rocky. These cairns are about four feet high, and on turning over the loose stones at their bases flint chips in considerable quantities were noticed.

The next cairn we approached near enough for investigation stands on the point of a bluff on the south side of the Cannonball river, and commands the valley both up and down for many miles. This, too, has many flint flakes and chips scattered around its base. About half a mile to the south stands another cairn on a high hill, completing the circle of view. Other cairns were observed at intervals, but only once at close range. There is a pair occupying two sharp-pointed buttes about 600 yards apart, some seven miles southeast of Cave Hills.

Slim Buttes, the next region visited, are really a single ridge, some 25 miles long and from half a mile to three miles across. Rising suddenly to a height of several hundred feet, and dotted here and there with pines, they furnish a sharp contrast to the slightly rolling sage-brush country around them. The buttes are chiefly of white sandstone, covered only at intervals with soil, and seamed with deep rugged gulches and cañons. The western side forms an almost unbroken precipice, extending out into many sharp points.



FIG. 59. — Remains of lodge, with buffalo skull, on Slim Buttes.

The sandstone in spots is very rich in fossils, especially of some species of land tortoise. Springs flow from the rocks in many places, affording excellent camping places, and even now game is plentiful. The war-eagle nests on the higher peaks, and the spurs running out on the western wall furnish ideal places for the capture of this bird. Figure 58 shows the general character of the buttes.

Little time was spent at Slim Buttes, but some points of archeological interest were observed and a number of broken arrowheads were picked up on the surface. Two old pits were discovered here which have been used for eagle catching. The pits are hollowed out of the weathered sandstone to a depth of about three feet and a half, and have a length of about four feet and a width of two. Scattered about the bottom and around the openings are pieces of small sticks about half an inch in diameter, which had probably been used as a covering for the pit. The method of taking these birds has been so often described that repetition is unnecessary. Most of the writers, however, say that the bird was killed, whereas Mr Joe Taylor, who lived among all the Missouri river tribes for years, states in his book, *Twenty Years on the Trap Line*, that the eagles were plucked of their tail-feathers and then liberated. Both of the pits found are on the very tips of points jutting from the western wall, with precipitous faces on both sides.

Another object observed at Slim Buttes is of considerable interest. It is a ruined Indian lodge of the common tipi shape, but substantially built. It is about ten feet in diameter and some twelve feet high. Instead of consisting of a mere framework covered with skins however, the substructure was solidly built of aspen poles, from an inch to three inches in diameter, laid close together. Over these sticks are the much-decayed remains of a straw or grass covering, over which had been placed earth to a thickness of several inches. The earth however, for the greater part, has washed off. The interior had evidently been excavated to a depth of twelve to eighteen inches when the lodge was built. Within, just back of the center, the ashes of the fireplace can still be seen, and also a buffalo skull with traces of painting in colors on the frontal. In the accompanying photograph (fig. 59) this skull is shown placed outside the stakes.

The age of the lodge is hard to determine, but Mr Tye stated that he had first seen it twenty years ago, and that the earth had begun to wash off at that time. The site chosen for it is an excellent one for a winter camp. It stands in the main bed level of a washed-out gulch, completely surrounded and hidden by an aspen thicket. The original bed had been again washed out just west of the lodge site to a depth of fifteen or twenty feet, and here, immediately below the lodge, a spring of delicious water flows out of the bank. Earthen lodges were the typical habitations of the Arikara, Mandan, and Hidatsa Indians, rather than of the Sioux.



FIG. 60. — General view of Cave Hills.

Cave Hills was the next point of interest visited. The general appearance is as if the hills had originally formed a single flat-topped circular mass, rising some three hundred or four hundred feet. This mass was afterward eroded, leaving a number of steep-sided, flat-bottomed valleys, with flat-topped ridges between, all of the same altitude. Throughout the valleys flow creeks bordered with patches of brush. The lower slopes of the hills are bare, but toward the summits and also on the flat tops the Black Hills pine grows in considerable abundance. About ninety feet from the level summits, on all the hills, there is a break in the slope, and here a nearly perpendicular wall of rather soft sandstone,

in alternate layers of brownish yellow and red, crowns and completes the elevation.

Throughout all the hills the elements have worn the sandstone wall full of pockets, caves, and caverns. Some of these are large enough only to accommodate a bird's nest, others have been used for refuge by small herds of cattle, while in still others men have left their traces. This feature gives the hills their name.

The observations here recorded were made on the ridge about two miles directly south of a small ranch, Ludlow post-office, in which ridge is situated what is called "Big Cave."



FIG. 61. — Gulch in which Big Cave is situated.

The first object noted was an effigy, possibly of a turtle. This is situated on a small flat bench on the lower slope of the ridge, and not far above the dry creek bed. It is about 30 feet long by 15 feet or 18 feet wide, and was constructed by outlining the figure with whitish boulders from eight inches to a foot in diameter and one to two feet apart. The figure lies in a north-and-south direction, but it is difficult to determine which is the head. The shape is shown in figure 62.

In one of the larger and deeper pockets at the base of the cliff a small piece of black pottery and a few flint chips were uncovered

from the sand of the floor, but nothing else was found. The sherd, a fragment of the rim of a vessel, resembles the pottery of the sedentary Missouri river tribes.

At the Big Cave and in its neighborhood were found the most interesting objects. The cave is situated on the northern side of the ridge, in a gulch filled with huge blocks of sandstone that formerly roofed a larger cavern. The entrance is in the eastern face of the gulch, and not many years ago was like the rest of the bowl-shaped pockets, with an overhanging curtain of stone in front. This has fallen in rather recently, partly blocking the entrance and carrying down part of the original surface of the side walls with it. The real cave is a sort of narrow crevice running back from this pocket entrance for many hundred feet, but it is only at the entrance that the petroglyphs to be described occur.

On the northern side of the cave entrance, and within 20 or 30 yards, is a mound, manifestly artificial, consisting of large quantities of stones averaging from three to five inches through. The mound is about 10 feet in diameter, nearly round, and about three feet high at the highest point, in the center.

The walls of the entrance to the cave were at one time completely covered with carvings and scratchings in the soft sandstone. The collapse of the overhang in front, however, has carried almost all of these with it. By kneeling down and peering in among the huge blocks of stone it can be seen that large numbers of the carvings are still intact, though buried under tons of sandstone blocks.

These petroglyphs can be broadly divided into three kinds, not counting the light scratchings here and there. The largest number

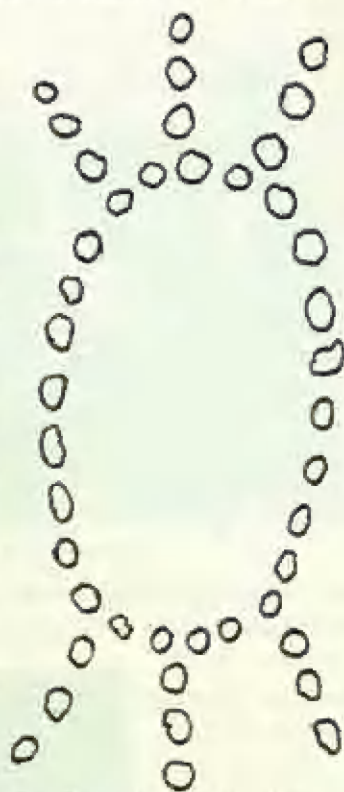


FIG. 62. — Effigy outline of stones.



FIG. 63. — The sandstone pockets in Cave Hills.

considerable difficulty. These petroglyphs are carved much more deeply than those previously described. Both types show traces of painting, principally in red, yellow, and blue.

Of a third variety of petroglyphs Mr Tye gave more information than could be gleaned in the cave, as he had visited the spot some years ago, prior to the fall of the roof. Only a few fragmentary examples remain, but these are suffi-

of those still on the walls were designed to represent animals of various kinds, as the deer and the dog, and also crude human figures, the general appearance approximating that of the figures painted on Indian record blankets.

Another type consists of what appear to be conventional symbols. Of this type only two good examples were seen; these were photographed successfully and then removed with con-



FIG. 64. — Petroglyphs in Big Cave.

cient to show that they once represented human heads in strong bas-relief, placed, so far as seen, on some point jutting out of the wall or on the angles where the opening of the cave commenced. The portions of heads that remain are farther back than the other carvings, consequently a good photograph could not be obtained. This is unfortunate, as the few examples remaining are mutilated and likely to crumble away very soon. Mr Tye states that on his

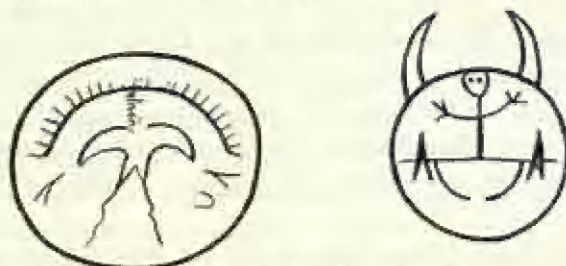


FIG. 65. — Details of petroglyphs in Big Cave.

former visit there was a considerable number of these heads in perfect condition, but these have all gone down with the fallen walls and roof. With sufficient time and proper implements some of the heads, as well as other interesting carvings, could be rescued from beneath the fallen mass.

Owing to the short time spent in the region, this brief report is necessarily superficial, but if it should arouse an interest which will lead to a careful exploration, it will have served its purpose.

BISMARCK, NORTH DAKOTA.

THE BANNOCK AND SHOSHONI LANGUAGES

By A. L. KROEBER

THE Shoshonean or northern division of the Uto-Aztekan linguistic family, sometimes considered as forming a distinct family itself, consists of four principal branches, which comprise altogether eight groups of dialects: the Plateau branch, divisible into Shoshoni-Comanche, Mono-Paviotso, and Ute-Chemehuevi; the Kern River branch; the Hopi branch; and the Southern California branch, consisting of Gabrielino, Serrano, and Luisiño-Cahuilla.

The Shoshonean languages are for the greater part very little known, and the scattered records of them have been written down by various observers following different methods. This rendered it necessary that the classification which has been made¹ should be based on the material collected in uniform manner by one investigator. Certain dialects, among which were Bannock and Shoshoni, were however very imperfectly represented in this material. The vocabularies of both these languages available for comparison were accidentally taken down several years before a general systematic study was undertaken, at which later time opportunity was lacking to amplify them.

Consequently an occasion for obtaining information as to these two languages, presented by the visit to San Francisco of a number of Shoshoni and Bannock, was made use of. Thanks for courtesy and assistance in this connection are due Mr J. F. Goss of Salt Lake City, manager of the party.

The Bannock informant was Fred Wadzese, a young man from Fort Hall reservation, Idaho. James Brown, a middle-aged Shoshoni born in the vicinity of Ruby Valley and Elko in eastern Nevada, and now making his home at Washakie, near Portage, in north-western Utah, was a more interesting and valuable informant.

The Bannock vocabulary shows that the dialect belongs to the

¹Univ. Calif. Publ. in Amer. Arch. Ethn., IV, 65-167, 1907.

Mono-Paviotso group. It was said to be sufficiently similar to the Paviotso or so-called Paiute of western Nevada for the two languages to be mutually intelligible. It is closely related to Mono. Unfortunately it could not be ascertained in what precise locality the informant's dialect was originally spoken, nor was it possible to determine positively that the material secured represented the only Bannock dialect on Fort Hall reservation, though this seems to be the case. It appears accordingly that the Bannock vocabulary formerly discussed¹ was included in the Ute-Chemehuevi group only because of its incompleteness and imperfection, and that all tribes properly called Bannock must be united with the Mono, Paviotso or western "Paiute," and Walpapi or Snake, in the Mono-Paviotso group. As the term Paviotso has had very little usage, the group would perhaps be better designated as Mono-Bannock.

The Shoshoni informant, while born in eastern Nevada, had been several times with the Shoshoni of Fort Hall in Idaho and of Wind River in Wyoming, and lived chiefly in northern Utah. He declared that the Shoshoni spoken in all these places was identical, and differed in no way from the Shoshoni of the two members of the party who were from Lemhi reservation in southern Idaho. Among the Shoshoni he had met Gosiute and Comanche, both of whose dialects he was able to understand and regarded as Shoshoni. On the other hand he looked upon Bannock and Ute as different languages. The Lemhi Shoshoni words given by Dr Lowie² also agree well with the author's. It therefore appears that the form of speech customarily known as Shoshoni is everywhere the same or nearly the same, and that the entire Shoshoni-Comanche group is comparatively uniform.

James Brown called the people of Elko and vicinity, *Tocowix*,³ white-knives. The Ruby Valley people are *Warū-dika-nū*, wara-eaters. Wara are black seeds growing in salty places. The people about Austin, Nevada, he knew as *Dūve-dika-nū*, pine-nut-eaters,

¹ Op. cit., 67, 103, 105, 115.

² Anthr. Pap. Am. Mus. Nat. Hist. 11, 165-306, 1909.

³ C = *ah*; tc = *ch*; x = surd spirant of *k* series; *g* = sonant spirant of *k* series; *q* = *k* in velar position, *g* = sonant spirant of velar series; *ñ* = nasal of *k* series; ' = glottal stop; ' = aspiration; *v* = bilabial *v*; *δ*, *u* = Shoshonean *δ*, *u*, indistinct with imperfect rounding of the lips.

and as "talking like the Shoshoni." The Lemhi people are *Duku-dika-nū*, mountain-sheep-eaters. The Gosiute he called *Kucyut*. The name Paviotso he gave to the people so called by Powell; whether it is their own name or a Shoshoni word, is not certain. The true Paiute at Fillmore, Utah, he knew as *Huga-paka*, cane-arrows.

Mr C. E. Kelsey, special Indian agent for California, recently informed the author that the so-called "Paiute" of Owens river in eastern California, who are Mono-Paviotso, called the Indians of Owens lake, the Koso and Panamint mountains, and Death valley, "Shoshoni" and Koso, and declared them to speak a different language from their own. Mr Kelsey obtained the count of these "Shoshoni." The numerals end in -te and agree with those of the Shikaviyam, Sikauiyam, Sikauium, Shikaich, Koso, or Kosho dialect material¹ recorded as spoken in the same region. The Shikaviyam was accordingly compared with vocabularies from the Plateau tribes, and a clearly Shoshoni element determined, though the incompleteness of the available Shoshoni material prevented any more radical conclusions at the time.

The new Shoshoni material, however, is sufficiently full to disclose an intimate relation between Shoshoni and Shikaviyam, so much so that Shikaviyam must be transposed from the Mono-Paviotso to the Shoshoni-Comanche group.²

There are accordingly Indians of the Shoshoni-Comanche group, whether or not they can correctly be designated as Shoshoni outright, in eastern California, in the region between Owens lake and Death valley. The most westerly Shoshoni previously recorded

¹ Univ. Calif. Publ., op. cit., 68, 71, 118.

² In the following Shoshoni words, Shoshoni and Shikaviyam show a common stem peculiar to themselves: woman, *waip*¹; young man, boy, *tuvitvi*; head, -*m-bamōi*; bone, *du'niip*; snow, *takav*; earth, *cūgup*; stream, *egwip*²; sand, *bu-cavamp*; wood, *kāp*³; bird, *hutu*; crow, *guk*⁴; much, *so-ne*; yesterday, *gūnt*⁵; to-morrow, *tuā*; give, *ut*. In the following Shoshoni and Shikaviyam are more similar to each other than to any other dialects: man, *tenip*⁶; ear, *neiki*; your eye, *ūm-bui*; beard, *mo*⁷; hand, *mo*; foot, *namp*⁸; night, *dugan*⁹; salt, *onap*¹⁰; deer, *dūhia*; owl, *mumbite*; no, *ge*; run, *nuk*¹¹; sleep, *ūhui*; sit, *gadū*. As compared with these, a few Mono-Shikaviyam resemblances may be due to borrowing between adjacent dialects, or to occasional confusion on the part of the sole Shikaviyam informant, whose native language was Tūbatulabal and from whom Mono and Kawaiisu vocabularies were also obtained.

seem to be in the vicinity of Belmont, in south central Nevada, except for Mr Coville's reference to "mixed Paiutes and Shoshonis" near Ash Meadows, Nevada, east of Death valley.¹ It remains to be ascertained whether the Shikaviyam Shoshoni were connected by a continuous strip of Shoshoni territory with the Shoshoni of Nevada, or whether they constitute a geographically detached group living to the west of other tribes of Shoshoni-Comanche affiliation.

In any case two facts are established :

1. The Shoshoni-Comanche are to be added to the Shoshonean dialectic groups represented in California. As four of these groups are confined to California, and Mono-Paviotso and Ute-Chemehuevi dialects have been previously known in eastern California, it follows that California contains representatives of seven out of the eight principal dialectic divisions of Shoshonean, — in other words, every division except Hopi.

2. The Shoshonean area of which the dialects have heretofore been undetermined,² is now largely reduced. The entire northern portion or arm of this area is to be assigned to the Shoshoni-Comanche.

The words Panamint and Vanyume seem to be the same. It remains to be explained why the Mohave apply the term Vanyume to the Serrano of the Mohave desert, when the Panamint mountains are in Shoshoni territory.

A Chemehuevi called the "Sosoni" Indians Gvōōts.³ It is possible that this is a form of the name Koso.

The name Shikaviyam contains the Uto-Aztekan plural suffix -m. As this suffix has not been found in Mono-Paviotso or Shoshoni-Comanche, Shikaviyam is presumably not the name which the Shikaviyam give themselves or their Mono neighbors apply to them, but the term by which they are known to some other Shoshonean group, such as the Kawaiisu, the Serrano, or the Tūbatulab of Kern river.

¹*American Anthropologist*, v, 351, 1892.

²See the map in Univ. Calif. Publ., op. cit., 164.

³Ibid., 107.

BANNOCK

The accent is often final in Bannock. Many vowels, especially at the end of words, appear to be somewhat nasalized. Whispered vowels often close words, as in Ute and Shoshoni. Final vowels and final consonants seem to be regularly aspirated. Shoshonean *ô* and *û* occur. Surd and sonant stops are as difficult to distinguish as in Ute and Shoshoni. Q, velar k, is distinguishable from ordinary k. G is generally spirant; g, velar spirant sonant, was also heard. V is bilabial, as always in Shoshonean; it is related to p, as substitution for it in different forms of the same word shows. R was not heard; it seems to be replaced by a d resembling r; compare *sadû*, dog, Ute *sari-te*.

Owing to necessary limitation of investigation, it was advisable to confine grammatical inquiries to certain points on which comparisons could be made with other Shoshonean languages: the expression of the plural, the objective relation in the noun, and noun endings.

No trace of the plural suffix -m was found. Gatschet has already stated that this ending does not seem to occur in Paviotso.¹ A few cases of reduplication to indicate the plural were obtained: *mogon'*, *mo-mogon'*, women; *waits*, *wag-waits*, old men; *sia'a*, *su-xûa*, girls. These are all nouns denoting persons, and it is not known how extensive the process is. Inanimate nouns were obtained in the same form in singular and plural.

Nothing like the Ute and Luiseño objective suffix -e, -i, was recorded.

One case of loss of noun-ending in composition was encountered: *pû-ûp*, blood, *i-vû*, my blood, *û-pû*, your blood, *ta-pû*, our blood. This is of importance as showing that Bannock, and therefore Mono-Paviotso, follow at least to some extent this characteristic process found in Ute-Chemehuevi, Luiseño-Cahuilla, Kern River, Nahuatl, and other Uto-Aztekan languages, while Shoshoni, as will be seen, and Pima, do not follow it when the possessive pronominal elements are prefixed.

¹ Rep. Chief of Engineers, 1876, III, 559.

SHOSHONI

Shoshoni and Bannock are phonetically similar, but show certain differences. Shoshoni possesses the final whispered vowels found in all Plateau dialects, but lacks the tendency to nasalization that appears to pervade Bannock final vowels, as well as the frequent accentuation of the last syllable of words in that language. For instance, Bannock, *movi'*, nose, *naqa'*, ear, *pui'*, eye; Shoshoni, *u-mu'v*, *u-ne'ñk*, *üm-bu'i*. The vowels i, e, o, u, are open; the same seems to be true of Bannock.

Velar q, present in both Bannock and Ute, seems to be absent. G is at least sometimes spirant. The nasal in k-position, ñ, occurs only before g and k. R resembles d, and was heard interchangeably with it: *dü'hia*, *co'gu-rhia*; *debit*, *nü-rebit*, *debir-inyö*. V is related to p as in Bannock: *hu-pak*, wood-arrow, *nyü-vak*, my arrow; *ba'm**, tobacco, *nü-vä'm**, my tobacco.

The difficulty of discriminating between surd and sonant stops, which this dialect in common with all Shoshonean languages presents to the investigator, may find its solution in a determination made in regard to Papago, a Uto-Aztekan dialect of the Piman group. Recent opportunity of hearing Papago for some time led to the conclusion that all initial and medial consonants, stops as well as continuants, were sonant, though in the case of stops harder than in English; while all final consonants were surd and strongly aspirated. In other words, there is organically only one sound in each tongue-position, which varies between sonancy and surdness according to its place in the word. This conclusion was confirmed by mechanical determinations made by Professor P. E. Goddard, which further showed the interesting fact that sonancy occurred later in the formation of the sounds than in English, the impulse to its production being contemporaneous with the final release of position in a stopped consonant. Hence the apparent "hardness," which led at first to the same sound being written once as b, then as p, or once as g, then as k, and has caused initial and medial sonants to be generally recorded as surds by white observers.

It was not possible to make similar mechanical observations of Shoshoni, but the impression was had very strongly that the same

condition existed in both this language and Bannock, at least as regards stops, as in Papago. In both Shoshoni and Bannock, final stopped consonants were always heard distinctly surd and more or less aspirated, though probably less strongly than in Papago; while initial and medial consonants were heard and written once as surd, once as sonant, and once as intermediate. Exactly the same has been the writer's experience with Luiseño, Cahuilla, and other Shoshonean languages. The Luiseño word for rock seemed to lie between *doda* and *tota*; but without the final -a it would be dot or tot, never dod. If this law, of only one series of stops, and perhaps other consonants also, varying between surdness and sonancy according to position, holds throughout the Shoshonean dialects, Sparkman and others who have written only surds are correct, so long as it is remembered that what is inherently one sound becomes surd or sonant according to its position in relation to vowels.

Professor Goddard's determination of the peculiar nature of the Papago sonants is also likely to be of general importance in explaining the true nature of the little-understood "intermediates" between surd and sonant that have been reported in a number of American languages.

Final vowels were also generally heard aspirated in Shoshoni, as in Bannock and Papago.

G in all three Plateau languages is usually, perhaps always, spirant. D is similar in sound to r, and vice versa, and one replaces the other dialectically. V and p are closely related, as shown by their appearing for each other in the same stems. Since sonant stops as a distinct class from surd stops are at best doubtful, g, r, and v, in other words sonant continuants, must therefore be recognized in the three Plateau dialect groups of Shoshonean instead of g, d, and b of English quality. Whether these continuants merely take the place of our sonant stops, or whether they are spirantized modifications of original stops, remains to be ascertained.

In another way the experience gained in Papago may throw light on Shoshonean phonetics. In all Shoshonean dialectic groups, except Luiseño-Cahuilla, the characteristic "impure" sounds *ô*, *û*, *o*, *u*, were originally heard. Increased familiarity led to the conclusion that *ô* and *o*, *û* and *u*, each represented but one vowel

quality. Acquaintance with Papago finally brought the conviction that *ô* and *û* were only different apperceptions of one sound of obscure quality, produced with but slight rounding of the lips. This unfortunately could not be verified by experimental mechanical means in the time available, vowel determinations being as yet much more difficult, with the apparatus employed by Professor Goddard, than most those concerning consonants. *Ô* and *û* were certainly both heard in Papago to the end of the study made; but the fact that both were heard in the same word as pronounced at different times, made their identity the more probable.

In Shoshoni, and Bannock as well, both *ô* and *û* were also heard, but a comparison of the record shows that they were noted almost indiscriminately in the same words, as for instance the possessive elements, so that it is not unlikely that they constitute but a single sound in these and other Shoshonean languages.

In both Shoshoni and Bannock, no combinations of consonants were observed at the beginning of words, and none at the end except groups like *mp* and *nt*, which are apparent developments of simple sounds.

The plural suffix *-m* was not observed in Shoshoni except in the personal pronoun, but names of persons are provided with a suffix or postposed particle *-nû* or *-nyô*: *Yuta-nû*, Utes, *tuivitci-nyô*, young men, *naipi-nyô*, young women, *daivo-nû*, white men.

No objective case-ending was obtained. Ute *-e*, Luiseño *-i*, and similar suffixes in certain of the Uto-Aztekan languages of northern Mexico, would seem to demand a considerable antiquity of the ending to explain its widespread distribution. Its complete absence from Nahuatl and other Mexican languages, from Papago and Pima, from Shoshoni-Comanche, and apparently Mono-Paviotso, however compel caution in this assumption.

Noun terminations occur in Shoshoni, but are peculiar in not being lost when a possessive pronoun is prefixed to the noun. At least no instance of such loss could be observed. Shoshoni is the only Shoshonean dialect for which this condition has been established. The stem of *dimp^h*, stone, is *dî*, as shown by Nahuatl *te-il*, my stone *no-te-uh*; Luiseño, *to-ta*, my stone *no-to*. My stone in Shoshoni is however not *nyûa-dî*, as might be expected, but *nyûa-*

di-m^h. Similarly, *nyū-hū-pi*, my wood, *nū-vū-p^h*, my blood, as compared with *bū-p^h*, blood and with Bannock *i-vū* from *pū-ūp^h*.

On the other hand, that the terminations exist, and are detachable, is proven not only by comparative forms in other dialects, but by the loss of the endings in binary noun-composition. Thus:

hū-pi, wood, *hu-aik*, wood-bow, not gun, *hu-pak^h*, wood-arrow, not penis, *hu-guna*, fire-wood, not tree.

bacūva-m^h, sand, *bacūva-cogup*, sand-country.

cogu-p, land, *dūhia*, horse, *cogu-rhia*, deer.

duku-tci, mountain-sheep, *duku-dika-nū*, Sheep-eaters.

This type of loss of noun-ending occurs in Nahuatl, but has not been reported in the Southern California dialects for the reason that composition of two nouns is rare in these dialects, and even, if Sparkman is correct, entirely wanting at least from Luiseño.¹ The above forms are therefore of double interest as proving also the existence of binary noun-compounds in Shoshoni-Comanche.

That the noun-termination, contrary to usual Uto-Aztekan rule, is not lost after a possessive prefix, seems to point to a different status of the pronominal elements in Shoshoni. They may prove to be independent words that are preposed, and not prefixes as is usual in other dialects.

It is also clear that certain nouns are not provided in any circumstances with terminations. Such are *pa*, water, *wi^h*, knife, *mū^ha*, moon. Ute-Chemehuevi and Mono-Paviotso also show certain nouns lacking endings, and in Luiseño-Cahuilla certain body-part and onomatopoeic terms are also without them. Easily the prevailing suffix in Shoshoni is *-p*. This *-p* is also the commonest suffix in Mono-Paviotso and Ute-Chemehuevi.

A similar practice is followed in adjectives as in nouns. As given as independent words, adjectives of color end in *-vite*: *bu-vite*, green or blue, *oo-pite*, yellow. In composition this ending does not appear:

doca-vite, white, *doco-wi^h*, white-knives, *doc-gamh^h*, white rabbit, jackrabbit.

du-vite, black, *du-wa^hni*, black fox, gray fox.

eŋga-vite, red, *eŋga-bucia*, red-louse, flea.

¹ *American Anthropologist*, N.S., VII, 656-662, 1905.

The pronouns determined are :

	Independent	Possessive
S 1	<i>nū</i>	<i>nū-</i> , <i>nyū-</i> , <i>nyūa-</i>
2	<i>ūn</i>	<i>ūn-</i>
3		<i>ū-</i> , <i>ā-</i>
D 1	<i>ta-u</i>	
2	<i>mūw-u</i>	
P 1 incl.	<i>ta-mⁿ</i>	<i>tamū-</i>
1 excl.	<i>nū-mⁿ</i>	
2	<i>mū-mⁿ</i>	

Before nouns with initial dentals the possessive prefixes of the first and third person singular, and first person plural, add -n-; before labials, -m-.

u-m-bamp^t, his head.

tamū-n-dav^t, our sun.

nyūa-n-dimp^t, my mouth.

daive a-m-bui^t, white man's eye.

A similar appearance of nasals between prefix and noun is observable in Shikaviyam.

As will be seen, the dual is formed by -u, the plural by -mⁿ. The latter is the only noted occurrence in the language of this widely-spread Uto-Aztekan suffix. Shoshoni is the only Shoshonean dialect in which a dual has yet been reported. The distinction, in the expression of the first person, between inclusion and exclusion of the second person, occurs also in Ute-Chemehuevi.¹

The a- of the third person possessive is paralleled by an identical form in Gabrielino and in Serrano. Luiseno-Cahuilla shows po- or pe-, of demonstrative origin, and Mono an unexplained da-.

Demonstratives are :

	This	That
S	<i>cit</i>	<i>cuf</i>
D	<i>cit-iwū</i>	<i>cuf-iwa</i>
P	<i>cit-iū</i>	<i>cuf-i</i>

Ci-k and *cu-k*, here and there, were also obtained as meaning this and that.

A third stem, *ca-t* and *ca-k*, was recorded a few times.

Another set of demonstratives, said to denote invisibility, per-

¹ *American Anthropologist*, n. s., x, 74-87, 1908.

haps expressing reference rather than distance, but showing the *i* and *u* of *ci-t* and *en-t*, are *ic* and *uc*:

ic-i cu-t hū-pi, the same wood.

hagar-uc, or *-ic*, which one is it that . . . ?

hin ic, what is this?

ic-in-cut, this is the one.

Interrogatives are *hagat*, *hagar-*, who; *hagan*, where; *hin*, what.

Ha- for who and where, and *hi-* for what, are the usual Shoshonean stems.

Numerals end in *-itc*, *-tc*, *-ty*, *t'*.

The future intensitive is expressed by *-rui* on verbs. Other verbal endings are *-n*, *-k*, *-gin*.

Dav-ni, day, like Bannock *tavi-n*, may be a locative form of *dav'*, sun.

VOCABULARY

ENGLISH	BANNOCK	SHOSHONI
One	<i>cūwayu</i>	<i>sim^m</i>
Two	<i>wahayu</i>	<i>wadu</i>
Three	<i>pahiu</i>	<i>ba'ty^t</i>
Four	<i>watsōqwi</i>	<i>wadjuwite</i>
Five	<i>manigiū</i>	<i>mandgit</i>
Ten	<i>cūwanoyu</i>	<i>cūmanu'te</i>
Man	<i>nana</i>	<i>tenip^t</i>
Woman	<i>mo'gon^t</i>	<i>waip^t</i>
Old Man	<i>waits</i>	<i>tsu'capū</i>
Old Woman	<i>piavav^t</i>	<i>hōvidsotsi</i>
Person	<i>nōvū^t</i>	<i>nūm^m</i>
Head	<i>tsop^t</i>	<i>bamp^t</i>
Hair	<i>wop^t</i>	<i>bamp^t</i>
Ear	<i>naga^t</i>	<i>-neñk^t</i>
Eye	<i>pui^t</i>	<i>-hui</i>
Nose	<i>mov^t</i>	<i>mu^t</i>
Mouth	<i>dipa^t</i>	<i>-dimp^t</i>
Tongue	<i>ico^t</i>	<i>-cik^t</i>
Tooth	<i>tava</i>	<i>-dam^m</i>
Hand	<i>mai</i>	<i>-mo</i>
Belly	<i>ucapū^t</i>	<i>-cap</i>
Foot	<i>uqūqū^t</i>	<i>-nambe</i>

ENGLISH	BANNOCK	SHOSHONI
Bone	<i>oho'</i>	<i>-dzu' níp</i>
Blood	<i>pūūp'</i>	<i>būp'</i>
House	<i>novi'</i>	<i>ga' n</i>
Bow	<i>adū</i>	<i>aiK'</i>
Arrow	<i>paGop^u</i>	<i>paka</i>
Fire	<i>naiḍū</i>	<i>gu' na</i>
Smoke	<i>kwidaga</i>	<i>kwip^u</i>
Water	<i>pa</i>	<i>bā' a</i>
Land	<i>tiip</i>	<i>cogup</i>
Rock	<i>tūpi'</i>	<i>dimp'</i>
Dog	<i>sadi'</i>	<i>sari</i>
Deer	<i>tōhū' te</i>	<i>dūhia</i> (now "horse")
Elk	<i>pa-tōute</i>	<i>ba-r^uhia</i>
Jackrabbit	<i>gamō'</i>	<i>doc-gam^u</i>
Rabbit	<i>tavo</i>	<i>dap^u</i>
Much	<i>iwayu</i>	<i>cont</i>
Yesterday	<i>izi</i>	<i>gūnt^u</i>
Tomorrow	<i>moa</i>	<i>ima' a</i>
Yes	<i>aha'</i>	<i>ha' a</i>
No	<i>gai</i>	<i>ge</i>

UNIVERSITY OF CALIFORNIA,
AFFILIATED COLLEGES,
SAN FRANCISCO.

THE DHUDHUROA LANGUAGE OF VICTORIA

By R. H. MATHEWS

THE Dhudhuroa was spoken by the Dyinningmiddhang tribe on the Mitta Mitta and Kiewa rivers, and along the Murray valley from Albury to Jingellic. Minyambuta, a dialect of the Dhudhuroa, was the speech of the tribes occupying the Buffalo, King, Ovens, and Broken rivers, with the tributaries of all these streams. From Jingellic eastward was the country of the Walgalu tribe, whose speech resembled partly the Dhudhuroa and partly the Dyirringañ, a tongue spoken from about Nimmitabel to Bega. In 1902 I published a short grammar of the Dyirringañ language.¹

The *Wonggoa* ceremony of initiation, which was in force among the Dyinningmiddhang and Minyambuta tribes, was described by me in 1904.² The initiation ceremony of the Dyirringañ is fully set forth in an article communicated to the Anthropological Society of Washington, U. S. A., in 1896.³

North of the Dyinningmiddhang, on the opposite side of the Murray, the country was occupied by the outskirts of the Wiradjuri nation. As a consequence of this, we find that the Wiradjuri system of marriage and descent⁴ overlapped some distance southerly from the Murray among the Dhudhuroa speaking people. For example, along a narrow strip of country on the southern bank of Murray from Albury to Jingellic, the descent of the children is through the mother. Among the Minyambuta the descent was paternal, the same as among the tribes to the west and south of them, particulars of which I have given elsewhere.⁵

DHUDHUROA GRAMMAR

Nouns

Nouns are subject to inflection for number, gender, and case.

¹ *Journal Royal Society New South Wales*, xxxvi, 160-167.

² *Ibid.*, xxxviii, 306-322.

³ *American Anthropologist*, ix, 1896, 327-344, with plate.

⁴ *American Anthropologist*, ix, 1896, 411-416; *Ibid.*, x, 345-347.

⁵ *Journal Royal Society New South Wales*, xxxviii, 297-305.

NUMBER. — *Yauara*, a kangaroo; *yauaraulbo*, a pair of kangaroos; *yauaramunga*, several kangaroos.

GENDER. — *Dyaba*, a man; *mulla*, a woman. *Yauara-jumma*, a male kangaroo; *yauara-dyunggana*, a female kangaroo. Among birds, the cock is denoted by the postfix *bendyana*, and the hen by *mimmindyana*.

CASE. — There are two forms of the nominative. When the action is described by an intransitive verb, the noun is without flexion; but when a transitive verb is used, the noun takes a causative suffix, as *dyabungu dyana dugge*, a man an opossum killed.

Genitive: *Dyabala wāngewa*, a man's boomerang; *mullala dyudya*, a woman's yamstick.

The accusative is generally the same as the nominative, but when an instrument is the remote object of the verb, it requires a suffix, as *dyabangu wagara wāngewangu yerriadhani*, a man at a crow a boomerang threw.

The dative and ablative have their respective inflections.

Adjectives

Adjectives take the same declensions for number, gender, and case as the nouns with which they are used: *Wagara murrandoa*, a large crow; *wagaralbo murrandoalba*, a pair of large crows. The adjective always follows the noun which it qualifies. Adjectives are compared by two positive statements.

Pronouns

Pronouns have number, person, and case, and contain two distinct forms in the first person of the dual and plural.

The nominative pronouns are:

Singular	1st person	I	<i>nguddha</i>
	2d person	thou	<i>nginda</i>
	3d person	he	<i>magudha</i>
Dual	1st person	we, inclusive	<i>ngulla</i>
		we, exclusive	<i>ngullandha</i>
Plural	1st person	we, inclusive	<i>ngana</i>
		we, exclusive	<i>nganandha</i>

The following are the possessive pronouns in the singular number:

Singular	1st person	mine	<i>ngaila</i>
	2d person	thine	<i>nginna</i>
	3d person	his	<i>magudhala</i>

DEMONSTRATIVES. — This, *dyimbi*; that, *maigadha*; that, farther, *mamailgura*; that, still farther, *madhanbunga*; that, away yonder, *kait-gu-ru'-u-u*.

INTERROGATIVES. — Who (is that), *nganbandu*; who (did that), *nganbunga*; who (for), *ngangala*; who (from), *ngandung'u*; who (are those two), *nganbulbul*; what, *minyua*; what for, *minyena*; how many, *minyamalañ*.

Verbs

Verbs have the same numbers and persons as the pronouns, with the usual tenses and moods. Tables of conjugations are not thought necessary, but a tolerably full list of verbs in common use will be found in the vocabulary. They are conjugated as in the Wiradyuri language,¹ published by me in 1904.

Adverbs

Here, *dyimbi*; there, *mānya*; where, *wallume*; where (is it), *wallungura*; where (dual), *wallumbulan*; yes, *namai*; no, *dhubalga*; to-day, *nyinyanga*; to-morrow, *ngangara*; by and by, *maiarnagan*; long ago, *nungadhanambu*; how (was it done), *yungamininda*; when (was it done), *nguddaganganda*.

Prepositions

In front, *burrin-bung'a*; behind, *bunnhonga*; around, *gullag-wiangga*; between, *tumuramanga*; inside, *kikago*; outside, *kai-kudha*; up (a river), *wunbainangadha*; down (a river), *dyikanaan-gadha*; up (on top), *gunnagadha*; this side (as a stream, rock, etc.), *dyimbiangga*; the other side (of a river, etc.), *yirigama*.

Interjections and Exclamations

These parts of speech are not numerous. Hold on! *kunyi*; *Nheh!* I don't know.

Numerals

One, *kurdatwung-a*; two, *buláðherabo*; three, *buranigo* (this also means a few, such as three or four); many, *nyanda*.

¹ *Journal Anthropological Institute*, xxxiv, 288-290.

DHUDHURUA VOCABULARY

This vocabulary contains about 235 words of Dhudhuroa, collected by myself from the native speakers. Words of a similar kind are placed under similar headings, in the hope that this classification will be found more convenient for reference than if arranged in alphabetic sequence. It is the equivalence of English words which will be most frequently required and therefore they are placed first.

FAMILY TERMS		tongue	<i>dhallañba</i>
Man	<i>dya-ba</i>	back	<i>bunno</i>
husband	<i>ningullale</i>	arm, all	<i>kultyinba</i>
small boy	<i>magudya</i>	elbow	<i>kûrunba</i>
youth, initiated	<i>wangoa</i>	hand	<i>murra</i>
sorcerer	<i>wurra'we</i>	leg, thigh	<i>kurriwa</i>
initiated man	<i>dyibboba</i>	calf of leg	<i>murrandho</i>
elder brother	<i>murro'gañ</i>	knee	<i>dhimminba</i>
younger brother	<i>ngulubaminni</i>	foot	<i>dyinnu</i>
father	<i>mema</i>	heel	<i>mûnin-dyinnu</i>
woman	<i>mulla</i>	fat	<i>kullanhu</i>
small girl	<i>jummaganba</i>	bone	<i>biamunnhu</i>
child, neuter	<i>bundyina</i>	penis	<i>nugginba</i>
mother	<i>baba</i>	scrotum	<i>bûmbua</i>
mother-in-law	<i>ngunnung-gunnag</i>	vulva	<i>ngurrung-goa</i>
elder sister	<i>mandaguni</i>	nymphæ	<i>nunga-nunginba</i>
younger sister	<i>hurri-ga</i>	copulation	<i>mûndi</i>
THE HUMAN BODY		semen	<i>bulliwa</i>
Head	<i>murrewa</i>	urine	<i>dyi-wa</i>
forehead	<i>ngulua</i>	excrement	<i>gunu</i>
beard	<i>yerranba</i>	INANIMATE NATURE	
eye	<i>wûndyaba</i>	Sun	<i>nau'-i-u</i>
nose	<i>dhindiwa</i>	moon	<i>wurraiû</i>
neck, throat	<i>billi dyua</i>	stars	<i>dyim-boa</i>
ear	<i>mûrlamboa</i>	pleiades	<i>gûndaganba</i>
mouth	<i>lenthewa</i>	thunder	<i>muri-muriwa</i>
teeth	<i>niyu</i>	rain	<i>kurraiû</i>
mammæ	<i>hirriwa</i>	fog	<i>ngur-ngurgu</i>
navel	<i>biddit-bidditba</i>	frost	<i>girraia</i>
belly	<i>bandhara</i>	hail	<i>bettime</i>

fresh water	<i>gundha</i>
ground	<i>guratha</i>
a stone	<i>duruba</i>
sand	<i>maiaba</i>
darkness	<i>dho-gõtch'-ba</i>
heat	<i>meninha</i>
coldness	<i>kurkutba</i>
rainbow	<i>külbe'awa</i>
shadow	<i>murriago</i>
camp	<i>ngu-tyu-a</i>
fire	<i>ngeambünba</i>
smoke	<i>thumbaba</i>
food	<i>bummatnba</i>
night	<i>dho-gõtch'-ba</i>
morning	<i>dyikana</i>
evening	<i>dyeban</i>
hills	<i>minggau-gunnedha</i>
sandhill	<i>nudyuru</i>
grass	<i>murru</i>
leaves (of trees)	<i>burramiyu</i>
egg	<i>dhünga</i>
honey	<i>ngurrna</i>
pathway	<i>mürdhanba</i>
shadow	<i>murraiago</i>
tail of animal	<i>dya-wa</i>

MAMMALS

Rockwallaby	<i>waiatba</i>
flying squirrel	<i>yiranhoga</i>
kangaroo	<i>yauara</i>
black opossum	<i>kaunga</i>
bandicoot	<i>bullá'dha</i>
porcupine	<i>dhemünba</i>
dog	<i>mingga</i>
gray opossum	<i>dyau'-u</i>
kangaroo-rat	<i>burra</i>
bat	<i>munmalauna</i>

BIRDS

Laughing jackass	<i>kugarungga</i>
peewee	<i>dilditwa</i>

swan	<i>mulliwa</i>
crane	<i>kurrial'wan</i>
white necked crane	<i>murgoa</i>
eaglehawk	<i>wunnamuru</i>
black duck	<i>tumu</i>
curlew	<i>guranyillawa</i>
teal duck	<i>bai-a'-wu</i>
wood duck	<i>nanatba</i>
emu	<i>murri-a'-wa</i>
crow	<i>berrutha, wagara</i>
lyre-bird	<i>bullit-bullitba</i>
native companion	<i>birang'ganba</i>
common magpie	<i>gu'rin-gingga</i>
white cockatoo	<i>kittau'nu</i>
pelican	<i>gulaiguli</i>
willy-wagtail	<i>badyeri-dyirritba</i>

FISHES

Perch	<i>mur'roanba</i>
cod	<i>yümboa</i>
black bream	<i>wünnümbë-u</i>

REPTILES

Brown snake	<i>ge-ang-gu</i>
carpet snake	<i>kunggaia</i>
black snake	<i>dyu-dyu-a</i>
ground iguana	<i>wär'ura-dyaua</i>
tree iguana	<i>gurudha</i>

INVERTEBRATES

Locust	<i>gulangalangba</i>
blow-fly	<i>bümboa</i>
louse	<i>munnhuwa</i>
nits of lice	<i>dungganu</i>
centipede	<i>kur-ret'inba</i>
mosquito	<i>kirridhu</i>

TREES

Wattle tree	<i>wa'wara</i>
wattle bloom	<i>baddatwa</i>
red gum	<i>gämburro</i>
gray box	<i>tharringgoa</i>

yellow box	<i>bainoa</i>	full	<i>gundya-yebbung</i>
cherry tree	<i>berwa</i>	quick	<i>werañ</i>
kurrajong	<i>bibbanba</i>	slow	<i>bagir'rimalè</i>
pine	<i>yeddonba</i>	blind	<i>miki wüdyagu</i>
she-oak	<i>wündyu</i>	deaf	<i>miki mürlumbagu</i>
honeysuckle	<i>murka</i>	strong	<i>dha-ung</i>
ironbark	<i>bullutchba</i>	afraid	<i>wurragana</i>
apple tree	<i>mürrinya</i>	right	<i>nebbunda</i>
stringybark	<i>dhuddha</i>	wrong	<i>ngaban</i>
mountain-ash	<i>dhum' buddhand'</i>	tired	<i>ngarmunnung</i>
currant bush	<i>yerroanba</i>	fat	<i>kullimbu</i>
peppermint	<i>wuriba</i>	lean	<i>dhummindhunnu</i>
white gum	<i>bulluba</i>	cold	<i>kurkutang</i>
blue gum	<i>buneba</i>	angry	<i>warkamana</i>
grass tree	<i>dyan'-dyum-ba</i>	sleepy	<i>ngurunguraia</i>

WEAPONS

Tomahawk	<i>mutiwa</i>	glad	<i>ngullara</i>
yamstick	<i>tyu-tya</i>	greedy	<i>id-ya-na'bi</i>
spear, wood	<i>manduga</i>	sick	<i>mirgu</i>
spear-lever	<i>biuga, wommarua</i>	sticking	<i>ngundanya</i>

shield for spear	<i>birkiambu</i>
shield for club	<i>mürga</i>
club, fighting	<i>gudyera</i>
club, hunting	<i>dunnung-unninda</i>
boomerang	<i>wüñ'-ge-wa</i>
small club	<i>gidyu-dyurüm'bulu</i>
canoe	<i>mantha</i>

ADJECTIVES

Alive	<i>mürhoa</i>
dead	<i>mirriginni</i>
large	<i>mürrandu</i>
small	<i>banyungadyi</i>
tall or long	<i>ginyaro</i>
low or short	<i>kubbalo</i>
good	<i>günya</i>
bad	<i>keberri</i>
red	<i>ngaiar</i>
white	<i>durrunggurra</i>
black	<i>dhai-u-gillu</i>

Die	<i>nginyanga</i>
eat	<i>dhunna</i>
drink	<i>ngumare</i>
sleep	<i>nyiminyc</i>
stand	<i>tyekandyai</i>
sit	<i>nginggai</i>
talk	<i>thurgwai</i>
tell	<i>thungai</i>
walk	<i>bailai</i>
run	<i>binnilai</i>
bring	<i>matchgu</i>
take	<i>ngundagai</i>
break	<i>giginni</i>
strike	<i>tukkai</i>
fight	<i>tukkairibba</i>
arise	<i>bakkulai</i>
fall down	<i>wen' dhure</i>
chastise	<i>murratchbe</i>

VERBS

look	<i>nagai</i>	suck	<i>ngūmbumai</i>
hear	<i>ngurribai</i>	swim	<i>bunggai</i>
give	<i>ngibbi-u</i>	search for	<i>naga-nangadha</i>
sing	<i>ngutchbai</i>	spit	<i>burungale</i>
weep	<i>nunggai</i>	smell	<i>bādhe</i>
cook	<i>gutch-bai</i>	throw	<i>yerriadhe</i>
steal	<i>kurramago</i>	pitch	<i>wangumbai</i>
beg	<i>thungai</i>	roast	<i>gubai</i>
blow with breath	<i>imbai</i>	whistle	<i>winggillai</i>
climb	<i>kur'rigille'</i>	pretend	<i>butta'le</i>
conceal	<i>inbai</i>	kiss	<i>dhumagu</i>
jump	<i>bettugille</i>	vomit	<i>yakai</i>
laugh	<i>yagai</i>	dance	<i>ngunyare</i>
scratch	<i>bing-ago</i>	dive	<i>mulagale</i>
send	<i>yandigo</i>	to injure by sorcery	<i>yaiaro</i>
bite, sting	<i>bullingunni</i>	kill	<i>gunginne</i>
shine	<i>ngerumbunna</i>		

PARRAMATTA,

NEW SOUTH WALES.

THE PUTNAM ANNIVERSARY

The seventieth birthday of Professor Frederic Ward Putnam was made the occasion for presenting him with an anniversary volume of Anthropological Essays contributed by his friends and associates. The publication of this sumptuous volume was made possible by a fund contributed for this purpose by some of Professor Putnam's many friends. Professor Franz Boas and Mr F. W. Hodge had immediate charge of bringing out the volume.

The contributions cover the whole field of anthropology, including somatology, archeology, ethnology, sociology, religion, folk-lore, and linguistics. A bibliography of Professor Putnam's writings is also included in the volume. The contributors of the articles are A. L. Kroeber, J. Walter Fewkes, C. C. Willoughby, W. C. Mills, C. W. Mead, W. K. Moorehead, M. H. Saville, G. B. Gordon, G. H. Pepper, Miss Alice C. Fletcher, C. P. Bowditch, A. M. Tozzer, C. Peabody, Mrs Zelia Nuttall, P. E. Goddard, S. A. Barrett, A. Hrdlička, F. Boas, R. B. Dixon, J. R. Swanton, H. I. Smith, G. A. Dorsey, G. L. Kittredge, F. N. Robinson, C. H. Toy, and Frances H. Mead.

The *Festschrift* was presented at a dinner held in honor of Professor Putnam at the Hotel Somerset, Boston, on Saturday, April 17, 1909. Professor C. H. Toy presided and introduced the speakers.

President Charles W. Eliot, representing Harvard University, was the first speaker. He touched upon the many difficulties which surrounded the early attempts of Professor Putnam in establishing the teaching of Anthropology in Harvard University, the way these difficulties were overcome, and the gratifying results of Professor Putnam's work. He spoke of the growth of the Peabody Museum from small beginnings and the development of research connected with the Museum, and he drew a parallel between the pioneer work of Asa Gray in botany and Professor Putnam in anthropology. Furthermore he expressed his pleasure at seeing a bright future for Anthropology at Harvard.

Professor Franz Boas, through whose initiative the volume was undertaken, was the second speaker. He read a long list of the learned societies which had sent felicitations to Professor Putnam on this occasion. These included various learned bodies of the United States, South America, England, Sweden, France, Germany, and Italy. Dr Boas said in part:

"I consider it a great privilege to be allowed to express to you the good wishes of your many friends—those here assembled, and of the many more who could not join us to-night to do honor to you. Many years of enthusiastic work, not only in your chosen field of science but also in behalf of every subject that has appealed to your generous sympathy, have knit firmer bonds between you and your wide circle of friends. I wish to give expression particularly to the feelings of those who are working with you toward the advancement of Anthropology. When we look back upon the growth of our science during the last forty years, three names stand out prominently among American anthropologists,—your own, that of John Wesley Powell, and that of Daniel Garrison Brinton. We owe to you the development of steady, painstaking methods of field research and of care in the accumulation of data; not detached from the ends sought by Powell, not without ideas as to their interpretation, but looking forward steadily and firmly toward a goal that cannot be attained in a few years, nor in a generation—that must be before our eyes all the time, and the attainment of which demands our whole energy. No trouble has been too great for you in the pursuit of this aim; and to your facility of creating enthusiasm among half-willing friends of science, Anthropology owes much of what it is. We can hardly turn to one of the great centers of anthropological research without finding that its very existence, or at least much of its work, is due to your inspiring personality. It is not for me to speak of the work that you have built up in Harvard University, but I have been witness to the success of your inspiration in Chicago and in New York. Without your unselfish work for the World's Fair, the Field Museum of Natural History would not be what it is. You laid the ground for the anthropological work of the American Museum of Natural History in New York, and the periods of its great anthropological activity were when you were there. In the Far West, in California, anthropological work has grown up under your influence and under your watchful eye. If I were to count the institutions that have benefited from your wise council, I might go on without end. Much as you have thus done for the advancement of Anthropology, we should not do justice to you if we were to forget the personal influence that you have exerted upon all those whose good fortune it has been to work with you. Through your kindly interest in his scientific work and in his personal welfare, you have succeeded in making every one of us your warm personal friend. It has been our desire to give permanent expression to our feeling of gratitude to you; and it seemed to us that this could be done in no better way than by presenting you with a book

containing some of the results of the investigations of your former collaborators and of those who continue work in your special field of research. Your many friends here and abroad, personal friends, patrons of science, institutions in whose behalf you have labored, and your colleagues and collaborators have joined in the preparation of the book that I have the honor to present to you in their behalf. It is meant to be a token of our friendship and gratitude, and a witness for all time to come, not only of the important services that you have rendered to science, but also of the bonds of friendship that you have established between yourself and your younger colleagues."

Professor Putnam accepted the volume and expressed with deep feeling his appreciation of the honor shown him.

President-elect A. Lawrence Lowell followed. He spoke of the opportunities which Professor Putnam had enjoyed of opening an entirely new field of research and of developing a new science which had come to be of such great importance, an opportunity not given to many.

Dr C. S. Minot spoke of the zoological side of Professor Putnam's work, of his student days under Louis Agassiz, and his work on birds and fishes. He also commented on the part played by Professor Putnam in establishing the *American Naturalist* and the furthering of scientific work by means of its publication.

Dr W J McGee, representing the Anthropological Society of Washington, was the next speaker. He said in part:

"I desire especially to signalize one feature of Professor Putnam's career which seems to me distinctively national and permanent in character. Throughout the entire formative period of the American Association for the Advancement of Science, Professor Putnam was permanent Secretary, practically the sole continuous officer of the Association; and his efforts in its behalf were ceaseless and constantly successful. This, too, was the formative period of American science. Now what the Association (which I regard as our most typical and most useful scientific institution) would have become without Putnam—who can say? Certainly his impress is large; certainly its character and standing must in no small measure be credited to him. And what American science would have been without the Association—who can say? Certainly its character and prestige are the greater because of the work of the Association and because of Putnam's efforts in its behalf. It is doubly pleasant for one coming from another center of thought to acknowledge the debt of the nation to a man and to an institution that have done so much toward preparing the way for that larger knowledge of humanity made necessary by the modern view of nature in which the resources loom so large."

Professor R. B. Dixon was the next speaker. He touched upon the work of Professor Putnam in establishing the Division of Anthropology at Harvard and the prominent part he has played from the very beginnings in the establishment and development of instruction in Anthropology in the University.

Professor Putnam then made a few closing remarks of a reminiscent nature of his early life as a naturalist and the value throughout his life of the instruction received under Agassiz and the debt which he owes his former teacher for whatever he has been able to accomplish in his scientific career. He spoke of the enjoyment he himself has taken in seeing in his lifetime his own students occupying places of honor in the scientific world.

The dinner came to a close only after repeated good wishes had been expressed to Professor Putnam for a long continuance of his activities in the field of science.

A. M. T.

BOOK REVIEWS

Bydrage tot de anthropologie der Menangkabau-Maleiers. Academisch Proefschrift ter verkrijging van den Graad van Doctor in de Geneeskunde door JOHANNES PIETER KLEIWEG DE ZWAAN. Amsterdam: Meulenhoff & Co., 1908.

It is only a few years ago that the study of physical anthropology in Holland met with as little popularity as it still meets in the United States. A change for the better, however, has taken place, a proof of which is, among other recent valuable publications, the *dissertatio inauguralis*, or thesis for the degree of M.D., at the University of Amsterdam by Mr Kleiweg de Zwaan, under the above title.

As a rule, the maiden effort of young medical men, and those who have entered other scientific fields, is limited in size and of little importance, but Dr de Zwaan's thesis is, in both respects, a remarkable exception. As to size, his book comprises 206 pages, large octavo, twelve long lists of measurements, a number of excellent illustrations, and a map. As to importance, Dr de Zwaan's work is not only one of the best contributions to Indonesian somatology yet presented, but up to the present time it embodies the results of the most valuable and elaborate study of the physical characteristics of the Sumatran Malays (Menangkabau). To review a work like de Zwaan's *Bydrage* in a few pages is next to impossible; the numerous minute technical descriptions and thousands of figures require close study of the work itself. The purport of this note is simply to call the attention of American somatologists to it. For those not very familiar with the Dutch language I would refer to a brief but appreciative review of the *Bydrage* by a well-known authority, Dr B. Hagen (*Zeitschrift für Ethnologie*, 41 Jahrg., Heft I, pp. 134-136), and to a lecture delivered before the Anthropological Society of Berlin by Dr de Zwaan himself (*Die anthropologischen Ergebnisse der Sumatra. Reise des Herrn A. Maass. Ibid.*, Heft II, pp. 167-180).

A few words, however, should be said here about the *Bydrage*, and how it originated. Kleiweg de Zwaan visited and crossed central Sumatra in 1907, in company of the German traveler Alfred Maass, his chief object being a somatological study of the native Malay population of this region, until now a desideratum. In this he succeeded exceedingly well. No fewer than 569 subjects were measured, all men, of whom 498 were

examined at Taluk on the upper Kwantan river. Of the Padang highlanders 58 men were measured; of Gunung Sahilan, 13. Thus de Zwaan's material is divided into three groups, of which two, Taluk and Gunung Sahilan, are nevertheless almost identical. His material therefore constitutes, comparatively speaking, a rather homogeneous group. The Padang highlanders are a little more mixed.

De Zwaan described and measured his subjects after the method of Professor von Luschan, while in the main it is similar to that of Professor Rudolf Martin. Besides his anthropometric work, Dr de Zwaan has made observations on congenital deformations, circumcision, frequency of the pulse, temperature of the body, eye-sight, muscular strength of the hand, and finger-prints. This last subject forms a most interesting treatise on comparative dactyloscopy. No fewer than five thousand finger-prints of Menangkabau Malays were taken, probably the largest series in existence of any Oriental ethnic group. Last, but not least, a number of photographs of types were taken, and 57 plaster casts of faces made.

As some of the numerous results of de Zwaan's careful measurements (thirty-two of each man) only the following need be mentioned: The average total height of body of the men is 157 cm.¹ The Padang mountaineers are a little taller, or rather less small, than the two other groups. The average cephalic index is 82.1, or 51.7 per cent. brachycephalic. Among these the Padang highlanders are a little less brachycephalic than the people of Taluk and Gunung Sahilan. The difference between the former and the latter is also evidenced by the nasal index, respectively 69.3, 75.3, and 74.3.

It seems curious that a summary of the contents and an index are both wanting in the *Bydrage*, as these would have facilitated study of the vast amount of material contained in the book. The sketch map, indicating the track followed in central Sumatra by Mr Maass and his Dutch companion, is a poor one. This defect however is partly remedied by the excellent map accompanying Mr Maass's lecture before the Anthropological Society of Berlin (*Durch Zentral Sumatra, Zeitschr. f. Ethn.*, 41 Jahrg., Heft. II, pp. 144-166).

An interesting appendix to de Zwaan's work embodies the result of researches into the color-sense and color-adjectiva of the natives by Mr Maass. Written in German, it bears the title "363 Farbenuntersuchungen bei den Malaien Zentral-Sumatras." As Dr Hagen has already

¹ On page 178, *Zeitschrift für Ethnologie*, loc. cit., it is said that the average height of body is 175.5 cm. This must be a misprint, as the tallest man of the whole series measured reached only 173 cm.

pointed out, *Farben-empfindungs-Untersuchungen* would have been more appropriate.

H. TEN KATE.

L'Europe Préhistorique. Principes d'Archéologie Préhistorique. By SORHUS MÜLLER. Translation from the Danish by EMMANUEL PHILIPOT. Paris: J. Lemarrie, 1907. 212 pp., 3 pl., 161 figs.

The author believes civilization was transplanted into Europe from the Orient. Not much space is devoted to the paleolithic period. France is taken as a center and as the region that shows to best advantage the various stages of paleolithic culture. The reindeer epoch is lacking in Italy as one might expect, although specimens of the Solutrean and Magdalenian types are found there.

According to Müller there was in central Europe only one great period of cold after the warm climate of the Chellean epoch when he thinks man appeared for the first time. Penck and Rutot say there were two glacial epochs after the Chellean. The temperature dropped during the Solutrean and became very cold in the Magdalenian to grow milder again until the present time. He also believes the paleolithic period to be much shorter than the time ascribed to it by many geologists, notably Penck.

Only 6000 years is given for both the paleolithic and the neolithic period in Egypt, i. e. from 10,000 B.C. to 4000 B.C. For southern Europe the first epoch of the neolithic period is supposed to have begun about 5000 B.C., and the second epoch of the neolithic about 4000 B.C. These epochs began about 1000 years later, respectively, in Scandinavia.

Copper was employed first in the Orient. It was known in Egypt as early as the first dynasty, about 5000 B.C. But its use was restricted, and stone implements, particularly as cutting tools, were very generally employed until 3000 B.C. The Egyptian influence on the pre-Mycenæan civilization is noted and the characteristic stone burial cists of that epoch are described.

The beginning of the proto-Mycenæan epoch is placed at about 3000 B.C. With it appeared pottery of a new and much improved order. The paste was fine, the modeling excellent, and the ornaments in color. This epoch is known in Sicily, southern Italy, and Sardinia by the sepulture *a forno*, so-named because of its resemblance to an oven. Tombs of this type were communal and placed by preference in the flank of an escarpment. There also existed in these regions the dolmen proper. The two types of communal tomb are genetically related to the pre-

Mycenæan stone cist. Strange to say the dolmens spread to western Europe, Great Britain, and Scandinavia, but did not replace in central Europe the ancient custom of individual burials.

The epoch of transition from the neolithic to the bronze age is called the "eneolithic" and corresponds to the Mycenæan. It was preëminently the age of the poniard, the spear and the lance coming later. Properly speaking there was no eneolithic epoch in Scandinavia, although this epoch had a profound influence on northern civilization. For example, the flat-poled flint ax so characteristic of the north, and which is more recent than the flint ax with pointed pole, seems to have been copied after the copper axes of southern Europe at a time when metal was rare in the north and flint was plentiful. The dolmen also that characterized the eneolithic of the Mediterranean countries was introduced into Scandinavia during the first part of the neolithic period. The flint mines of Sicily and of Belgium are of the same type; but the former were worked by an eneolithic people and the process was borrowed by the races of Belgium before they emerged from a purely neolithic age. Not only flint but also obsidian remained an article of merchandise well into the bronze age. Obsidian is easily traceable to its original sources in Italy, Sicily, and certain islands of the *Ægean* sea. The finest example of the diffusion of flint from a single source is that of the Grand-Pressigny (*Indre-et-Loire*) which is recognized by its color and has been traced not only all over France but also into neighboring countries.

Müller enumerates the fundamental principles that should guide one in studying the relations of the central to peripheral civilizations as follows:

1. Southern Europe represented the active productive civilizing force, while the countries to the north being peripheral played a receptive rôle.
2. The civilization of the south was transmitted only in abridged and modified form, subject in the more remote regions to a further development along entirely new and original lines.
3. Types of tools, weapons, apparel, and ornaments may persist with but little change for a considerable lapse of time.
4. Elements which along the Mediterranean belonged to successive periods may become contemporaneous in the peripheral regions.

These principles were understood by the men who founded the science of prehistoric archeology during the last century. Müller believes that Montelius would make the prehistoric epochs of the peripheral region follow too closely those of the center. He also does not agree with

Penka that Scandinavia itself was a center, a source of civilization; nor with Reinach who regards Europe as independent from the Orient.

A chapter is devoted to the closing epoch of the neolithic period in the north, where stone art reached its apogee. The finest examples are the flint poniards that are so common in the dolmens of this epoch and that have their prototype in the bronze age poniards of southern Europe. No such development of the later neolithic is to be found in the countries bordering on the English Channel because the development in stone art was cut short by the introduction of metal at an earlier period.

Considerable space is given to the Mycenaean civilization which reached its zenith about 1500 B.C. It is pointed out that the dwellings of the period were not of a permanent character, while the houses of the dead were built for eternity. "The tombs with cupola of Greece and the giant dolmens of Denmark are derived from the same conceptions of life and death and are fundamentally one and the same thing. Nothing better than these monuments could reveal to us the unity of European civilization, and at the same time nothing shows more clearly the differences between the south and the north during the second millennium B.C."

Iron was known in Greece toward the close of the Mycenaean epoch, but was employed only for small objects. Bronze was the metal in general use. One could therefore speak of this epoch as the bronze age. But Miller prefers Mycenaean for Greece and bronze age for the rest of Europe, where the civilization was much less rich though derived from the same source, i. e. from the Orient through Greece. The typical weapon of the bronze age was the poniard. The sword came later, not before the close of the period. The fibula made its appearance here and was the point of departure for the development of feminine ornament during the epochs to follow, and after having fallen into disuse for ages has only recently reappeared in its original form but with another name—safety-pin.

One remarkable prehistoric phenomenon is the plentitude and decorative richness of the bronze age in Scandinavia and the mediocrity of the same civilization in western Europe. The latter was received indirectly by way of Italy while the former came directly from the Orient. In all western Europe from Spain to Great Britain there is not found a single fibula of the bronze age type. This absence joined with that of the spiral ornamentation is proof that the Occident was farther removed from Greek influences than were the Baltic countries. The Mycenaean culture is supposed to have reached the north by way of the Adriatic, western Hungary, and Bavaria.

The lake dwellings form an interesting phase of the prehistoric in Europe. They are grouped about the Alps: Switzerland, southern Germany, Savoy, northern Italy, and Austria (including Croatia and Hungary). The structures were quadrilateral, a fact suggesting Mycenaean influence. At least 200 village sites have been discovered in Switzerland alone since the winter of 1853-54. These belong to different epochs, the later neolithic, bronze, and iron ages respectively. Some in fact were inhabited during successive ages. The purely bronze age stations are found farther in the water than are the purely neolithic.

Just as curious in their way as the lake-dwellings are the *terramaras* of northern Italy. This is a corruption of "*terramarna*," a name which was given to the low flat hillocks in the valley of the Po from which a fertilizing earth has been extracted since early in the eighteenth century, long before the real significance of the deposits was known. They owed their existence to pile dwellings built on land but protected by water artificially regulated. Over a hundred have been explored thus far. The finest one is at Castione, northwest of Parma. Its present height above the plain is only three meters, but the thickness of the deposit is five and a half meters. Three successive villages had stood on the spot, the first two having been destroyed by fire. The *terramaras* represent preeminently a bronze age culture that came from Greece by the way of southern Italy.

The Dipylon epoch in Greece witnessed the appearance of a special geometric style of decorative art, consisting of straight lines and meanders. This art, developed about 1000 B.C., was not original and spontaneous. Although it consisted of old elements, these were brought together to form a new and harmonious ensemble. The same motives were in use a thousand years later in Scandinavia. Figurines of the horse characterize this epoch. Gold and silver were scarce. The use of iron became general.

The Dipylon epoch gave Italy its first iron age, which in its turn became the point of departure for a new period of civilization in the other countries of Europe. This period in Etruria was characterized by cinerary urns of coarse paste, made without the use of the wheel and with incised instead of painted ornaments. The motives, however, recall those of the Dipylon epoch in Greece—zigzags, meanders, etc. All sorts of small objects were placed with the dead—among others the bronze razor with a single edge in place of the earlier two-edge razor; also, a new type of fibula with highly arched body instead of the Mycenaean type. There appeared at this time a sword with a hilt terminated

by two branches — a type destined to play an important rôle north of the Alps as far as Scandinavia.

The first iron age in Italy is generally called the first Villanova epoch (1000 B.C.). It is also called the epoch of well-shaped tombs, *tomba a pozzo*. The second epoch of Villanova reveals an increasing Greek influence accompanying a local original development. Incineration gave place by degrees to interment; and ancient linear ornament was succeeded by life forms repeated in series to form zones, recalling the Dipylon style. Much progress was shown in the construction of tombs, as witness the celebrated tomb of Regulini-Galassi discovered in 1836 at Cervetri. After the fall of Carthage, Greek influence practically superseded the Oriental in Etruria, after having given to Tuscany its money, alphabet, architecture, industry, and divinities. Hellenic civilization crossed the Appennines and invaded the Po valley. The best evidence of this is afforded by the Certosa cemetery at Bologna.

The first iron age of central Europe had its sources in the recent Villanovan civilization of northern Italy. It is commonly called the Hallstatt epoch from the village of Hallstatt in Austria near which was discovered a prehistoric cemetery representing the entire period. But the Hallstatt civilization was as restricted in area as it was distinctive in character. This limited zone became a center of civilization for the contiguous countries, which for the greater part were still in the bronze age. This was particularly true of Hungary, Scandinavia, and Switzerland.

The second iron age, or epoch of la Tène, dating from about 500 B.C., is better known than the Hallstatt epoch. We know that toward the close of the latter period there arose in what now corresponds to France and Germany a special civilization which reached its zenith during the fourth century B.C. There was created, at the commencement of the period a decorative Celtic style of such value and refinement as to be considered not only original but also national. Yet in the last analysis these motives are derived from the palmette and classic volute. The Celtic period may be divided into two epochs: an older corresponding to the Gallic domination and a younger represented by the discoveries at la Tène on Lake Neuchâtel. The two halves of the Celtic period were of unequal merit, the latter representing an epoch of decadence. The period left its traces in Scandinavia, some of the specimens being of excellent workmanship. In both Scandinavia and Great Britain the bronze age was prolonged into the epoch of la Tène.

The movement of civilization in western Europe during the epoch of la Tène had its counterpart in the region to the north of the Black sea where

the cemeteries of the time have furnished such a surprising quantity of beautiful objects of art, particularly gold ornaments. This rich period may be placed between the fifth and the second centuries, B.C. As one penetrates farther into the interior of Russia the indigenous Scythian art makes itself felt more and more. It is characterized by animal figurines or simply the heads of animals used ornamentally. A good part of Scythian art and industry came direct from Asia and eventually spread its influence over northern Russia and into Hungary.

Rarely has a victory had for the history of civilization such vast consequences as the victory of Alesia, 52 B.C., by which Cæsar vanquished the last armies of Gaul. After this the frontier of the prehistoric domain retreated rapidly toward the north. The Germanic world came into direct contact for the first time with the classic civilization of the south.

During the epoch of invasions there was a marked development of provincial industry. The Roman bronze vases, for example, were no longer made in the south for exportation, but in the region of the Rhine and in France. The sixteen beautiful pails from the cemetery of Hemmoor near Hanover are examples. One often finds Roman motives in use, but under forms scarcely recognizable. Among the most remarkable specimens of this kind belonging to the epoch of invasions must be classed the celebrated golden horns of Gallehus in Schleswig. To this period also belongs the Roman silver service found at Hildesheim.

Differences are pointed out between the recent Celtic civilization of Germany and that of Great Britain and Ireland. At the time the Romans gained a foothold in England local Celtic art had reached a high stage of originality and development. Celtic elements were even borrowed by the Romans, whose political domination over the land did not exercise any marked influence on the national art, which continued without interruption, particularly in Scotland and Ireland, and which culminated in the heroic and legendary Celtic period of the first 500 years A. D.

The last two chapters are devoted to the closing epochs of prehistoric times in Scandinavia (500 to 1000 A. D.), and to Finland and the Slavic countries.

Müller, who is director of the National Museum of Danish Antiquities, has been known for years as a gifted writer on northern archeology. The present volume maintains the high standard the author set for himself in earlier works. Each chapter is accompanied by a selected list of references. One misses, however, an index, which is all but indispensable in a work so important as this. The next general work on prehistoric Europe will in all probability devote more space to the contributions of such

men as Rutot and Penck ; those of the former on pre-Chellean industry and those of the latter on the antiquity of man from the standpoint of glacial geology.

GEORGE GRANT MACCURDY.

Prehistoric Japan. NEIL GORDON MUNRO. Yokohama : 1908. 8°, xvii, 705 pp.

A considerable part of what has been written on the prehistoric archeology of Japan is in English, but the articles are so scattered through periodical publications, and the books, mostly printed in Japan, have been so difficult of access, that the material is almost unknown. How will a student procure a copy of H. von Siebold's *Notes on Japanese Archaeology*, or of Morse's *Shell Heaps of Omori*, or of Kanda's *Notes on Ancient Stone Implements, etc., of Japan*? Let one, who thinks he knows, try. Hence we welcome this great work by Munro, which not only brings together all that his predecessors — Morse, Milne, von Siebold, Kanda, Hitchcock, Gowland — have said, but adds a wealth of new materials based on the author's personal field-work, museum study, and literary research. Munro draws largely on the by-no-means insignificant Japanese literature of the subject, a source absolutely inaccessible to most students. The result of his labors is this bulky volume, quadrupling our knowledge of its field. The work is abundantly illustrated with more than four hundred engravings, for the greater part half-tones. The author had free access to both public and private collections, and among his illustrations many choice or unique specimens are represented. Munro recognizes two clearly-defined cultures in Japan, with traces of a third. The earlier, "Primitive Culture," is "attested by the existence of over four thousand residential sites and shell-heaps." Metallic objects are absent ; implements and weapons of chipped and polished stone, coarse hand-shaped pottery, objects of horn and bone, and heaps of refuse remain to represent it to us. The second, "Yamato Culture," was marked by the erection of sepulchral chambers, dolmens, etc., and by the excavation of caves ; the relics do not include stone *weapons*, although there are curious stone copies of sheath-knives and swords, usually of diminutive size, and occasional stone copies of bronze arrowheads ; some problematical *implements* of polished stone occur, as mortars and other utensils, and various forms of stone *ornaments* ; arrowheads, jingle-bells, and mirrors of bronze, copper objects often plated with gold or silver, swords, horse-trappings and other iron articles and wheel-turned pottery, characterize this culture. Suggestions of a third, "Intermediate Culture," are given by objects

found in the south, where a bronze-using culture may have intervened between the Primitive and Yamato phases. Bronze swords, halberds, and arrowheads are found in the soil in Kyushu and in some provinces bordering upon the Inland sea; bronze bells are found as far east as Yamato. These objects are found neither on stone-age sites nor in Yamato tombs. After a preamble in which these general outlines are presented, the author discusses the evidence in a series of chapters on Neolithic Sites, Habitations, Implements, Utensils, Weapons, Ceramic Art, Daily Life, Intermediate Pottery, Some Bronze Vestiges, Yamato Sites and Sepulchres, Yamato Relics of Metal and Stone, Yamato Pottery, Daily Life, Religion, The Prehistoric Races. In his final chapter Mr Munro considers the Ainu, now confined to northern Japan. He discusses the question of an earlier population, preceding the Ainu, but finds no evidence for assuming its existence. Into the composition of the modern Japanese, Munro claims that Malayan, Negrito, Mongolian, Palasiatic (= Ainu), and Caucasian elements enter. It is the early days of this blend which are exhibited by the Yamato Culture. One feature of especial interest in Munro's treatment is his frequent presentation of survivals of ancient things into modern Japanese life. This book as a whole meets a real need. Unfortunately, it may prove to be almost as difficult to obtain as are the earlier, less complete works upon its subject, as we are told that almost the entire edition has been destroyed by fire. If this is true, it is much to be hoped that the book may be reprinted.

FREDERICK STARR.

Wissenschaftliche Ergebnisse meiner Ethnographischen Forschungsreise in den Südosten Deutsch-Ostafrikas. KARL WEULE. Berlin: Ernst Siegfried Mittler u. Sohn, 1908. 4°, 150 pp., 63 pls., map.

This notable contribution to African ethnography, by the director of the Ethnographic Museum of Leipzig and professor in the University of that city, is remarkable in many ways. It is the first of the series of *Mitteilungen aus den Deutschen Schutzgebieten* to be issued under the editorial direction of Dr von Danckelman, himself a traveler in and student of Africa. These *Mitteilungen* are to be issued at least once quarterly as *Wissenschaftliche Beihefte zum Deutschen Kolonialblatte* and are to deal with the German colonial areas of Africa and the South Seas. They will be issued at a marvellously low price, little if anything above their cost of production. That all will deal with ethnographical subjects is not to be expected, but if one in four reaches the high level of this initial number, both the student and the editor may be congratulated. The area inves-

tigated by Dr Weule is indicated in his title. For the greater part he was upon what is known as the Makonde plateau. The tribes studied were the Jao, Makua, and Makonde — and, to a less degree, the Wangoni. Of the Jao and Makua we have some material, linguistic and otherwise, from English workers, but for serious ethnographic study the three tribes were almost a virgin field. Dr Weule's original plans were changed by the fact that the area he proposed to visit had just been the seat of an outbreak. Landing at Daressalam on June 1, 1906, he reached Lindi on the 22d and left for his field of study on July 11; he reached Lindi on his return march November 17. Four months were devoted to actual field-work — unceasing and laborious investigation and collection. From early morning to late at night Weule worked, in spite of fevers and the distraction of attending to the many petty details of the expedition. He was fortunate, however, in having with him a companion who, though not an ethnographer, had had years of experience in that region and knew the people and something of the languages: this was one of his greatest assets. The expedition was notably successful. Professor Weule has already made brief reports of his journey; his museum collections will be fully described and illustrated in a publication of the Leipzig Museum of Ethnography; his study of art development as illustrated by these peoples will form a special monograph; his phonographic records will be made the material of a report by Dr von Hornbostel of the Psychological Institute of Berlin University; his linguistic material will be handled by Professor Meinhal; and the strictly scientific presentation of his entire work will be printed shortly. Meantime, the volume before us gives a clear and interesting account of the expedition itself, the methods of investigation pursued, and a brief statement of the matters of especial interest which from day to day occupied attention. The illustrations are from the author's own photographs and sketches. The work is not so profound as to be uninteresting to non-professional readers, but it is so full of new material that it is a true contribution to ethnographical science. Several of Weule's plates have notably suggestive value. Thus, the grouping on plate 1 of a series of sixteen small portraits, uniform in style and size, to show types of cicatrization, nose ornaments, lip- and ear-plugs, is a model of its kind. Again, in illustrating technique, Weule does not content himself with a single picture of the artisan at work, but presents a series of pictures side by side, representing steps and stages in the work. The idea is best developed in the plate showing a Wangoni woman making pottery; twelve small pictures present the operation. The idea is excellent. The result is the "moving picture" in all but

the actual rotation of the film. We would gladly enter into many details relative to Weule's material, but space does not permit. A few will be mentioned, merely by way of suggestion.

The author lays stress upon the boys' and girls' festivals, through which they enter manhood and womanhood. These rites of passage are always interesting, but the traveler has rarely the fortune to see much of them. Weule discusses them among Jao, Makua, Makonde, and Matambwe. Most of his matter was obtained through careful and persistent questioning of many individuals, both men and women. He himself saw several ceremonial houses and was so fortunate as to be present at part of some of the actual ceremonials. As elsewhere these rites are performed by groups of boys and girls, isolated in special houses in more or less retired spots, where they are for a time under instruction regarding sexual and social rights and duties; the participants go in as children, they come out as men and women. The discussion of the wearing of the *pelele* or lip plug is exceptionally interesting. It occurs among the women of most of the tribes studied, but reaches its culmination among the Makonde. There it is not only maintained in full vigor but is perhaps carried to a degree never before reached. The maximum size of the *pelele* is attained among women from twenty to thirty years of age. Weule saw examples which measured 7.5 centimeters in diameter. The *pelele* is usually colored white, which renders it a conspicuous object. The old women are those who most tenaciously wear plugs of largest size. Most important are our author's observations on the hygienic, physiognomical, and linguistic effects of *pelele*-wearing. The lip loses its force and elasticity; in time the plug flaps down, dragging the lips over the mouth in what to us is a most disagreeable fashion, instead of holding the lip out like a horizontal shelf. The teeth are affected by their constant exposure and caries sets in. Special strains produce peculiarities of facial expression. At times the lip itself is torn through, with the result of imitating a natural hare-lip. This injury can sometimes be repaired and the lip restored, even to the degree of permitting again the wearing of the *pelele*. Weule believes some peculiarities in the language are due to the use of this plug, and, as these peculiarities of pronunciation are general and not confined to the women, he raises the question whether men did not formerly wear the *pelele*. In some of these tribes devices for catching or trapping animals are numerous and ingenious. Weule paid special attention to these. In his collection all the smaller forms occur and miniature models of all the larger ones. He personally investigated the exact method of placing, baiting, and setting all. While he reserves a full discussion until later, the

outline of the subject, which he here presents, is the nearest to a monograph which we know. The significance of this great series of traps and snares is considerable; in few lines are the keen observation, clear thought, and ingenious grappling with practical problems of the dark man better shown. Weule makes some interesting additions to knowledge of tribal subdivisions, social organization, inheritance, and suggestion; he presents several genealogical diagrams showing the descent and succession of chiefs with whom he came into relation. These require much labor but are well worth while. In closing, one minor observation may be noticed. Weule found young Makua girls carrying pebbles in their mouths. He believes this a before-unpublished novelty. I have observed it in the Bakuba country, where some of the females in Ndombe's household practise the custom. In the Bakuba, as among the Makua, the bearers seem to select clear pebbles, probably of quartz. Of the Makua practice Weule says: "Of these stones, the young Makua maidens carry a variable number, at least two, but sometimes six, eight, or even more, in the mouth under the tongue. . . . As in a nest, so these glittering pebbles lie beneath the tongue." Weule's book is a significant contribution to Bantu ethnography. That this is appreciated is shown by the fact that an English translation by Miss A. Werner has just been announced. This will be good news for students who would have difficulty with the original text.

FREDERICK STARR.

Etudes sur les Sources de l'Ethnographie congolaise. EDOUARD DE JONGHE. Louvain: 1908. 8°, 26 pp. (Extract from *Museon*, No. 1, 1908.)

L'Activité ethnographique des Belges au Congo. EDOUARD DE JONGHE. Bruxelles: 1908. 8°, 26 pp. (Extract from *Bulletin de la Société belge d'Etudes coloniales*.)

Dr Edouard de Jonghe has recently issued two pamphlets relative to the materials for Congo ethnography, under the titles *Etudes sur les Sources de l'Ethnographie congolaise* and *L'Activité ethnographique des Belges au Congo*. In connection with launching the important series of *Ethnographic Monographs*, now publishing in Belgium, Dr de Jonghe considers it desirable to have a clear idea of the sources from which their matter is drawn and some criteria of judgment relative thereto. As being well known, particularly interesting, and the subject of the first of these monographs, he considers the sources of information regarding the Bangala. The first known contact of this people with the whites was in 1877, when Stanley made his famous trip down the Congo. They have since been in constant contact with whites and are changing under

the foreign influence. The rapid changes now going on among all Congo peoples emphasizes the importance of preparing the monographs dealing with them *now*. Data regarding the Bangala are relatively abundant. Three classes of informants supply them—employees of state and companies, missionaries, and travelers. De Jonghe indicates the qualities of a good observer and suggests the preparation desirable for such. He examines the work of observers of the Bangala in their order. Coquilhat, Lothaire, and Hanelot are the government officials who have contributed something worth while. The Catholic missionaries, Cambier, van Ronslé, Garmyn, de Dilde, Geens, and de Boeck have furnished reports to their societies and done linguistic work. Of Protestant missionaries, Comber, Weeks, and Stapleton are mentioned. Among travelers, Gustin, Wilverth, Briart, and Deligne (Belgians), and Baumann, Ward, Gleenip, and Westmarck are named. The character and value of the work of each of these is judged. Lastly the work of Dr Victor Jacques, who made anthropological examinations of the Bangala at the Antwerp and Brussels Expositions, is mentioned.

In his second paper Dr de Jonghe starts with the proposition that "the efficacy of every work of colonization is measured upon the degree of knowledge, more or less exact, of the mentality of the native population." Thus emphasizing the importance of ethnography, he asks whether the Belgians have shown a desire to study the Congo peoples. What methods have they employed? What progress have they so far realized? He distinguishes two periods in Belgian ethnographic study—that of the great explorations and that of the regular systematic occupancy of the country. The former yielded little; the latter more. No fixed date marks the close of the earlier, the beginning of the later period. Penetration has been gradual and the limit between the two varies with locality. In a general way, however, 1897 may be considered the date closing the period of great explorations. That year is also notable for the great Exposition at Brussels, which did much to arouse interest in Congo natives—many being there displayed—and led to the establishment of the Congo Museum. Out of these grew a somewhat serious and systematic work of investigation. The Anthropological Society of Brussels and the Society for Colonial Studies prepared questionnaires and made an effort to arouse true observation among and by those who went to the Congo area. De Jonghe takes up area after area, people after people, and in a few words characterizes the studies so far made by Belgians. By an abundant use of footnotes he refers to an abundant material of information. He also mentions the various agencies of in-

vestigation — societies, publications, etc., — in chronological order. He distinguishes the monographic from the synthetic method of study, the latter relatively undeveloped — and closes with some suggestions as to results to be expected and methods to be pursued.

FREDERICK STARR.

Collection de Monographies ethnographiques. CYR. VAN OVERBERGH, with the collaboration of ED. DE JONGHE. Bruxelles: Albert de Wit. 8°. No. I, *Les Bangala*, 1907, pp. xv, 458. No. II, *Les Mayombe*, 1907, pp. xvi, 470. No. III, *Les Basonge*, 1908, pp. xvi, 564. No. IV, *Les Mangbetu*, 1909, pp. xvi, 594.

This is the first serious attempt to present Congo ethnography. That the work has been influenced by Herbert Spencer's *Descriptive Sociology* is shown by the general title *Sociologie descriptive* appearing upon all the volumes. The idea of the collection developed from the World Congress held at Mons, Belgium, in 1905. There concerted effort in collecting, extracting, and combining existing knowledge regarding all the peoples of the world was urged and an international committee was appointed to organize and systematize a uniform world-wide ethnographic investigation. Belgium, the United States, England, Germany, France, Austro-Hungary, Holland, and Switzerland are represented in this committee, the secretary's headquarters being at Brussels. The plans of the committee include the preparation and distribution of a questionnaire, or a series of questionnaires, throughout the world, and the unification of results. Preliminary to this, and before vigorous efforts are made to accumulate new data, it is desirable that existent material should be collected, digested, and re-presented in convenient form. Van Overbergh here undertakes the task of doing this for the Congo area. He takes the *Questionnaire* already issued for use in that region by the Société belge de Sociologie as the foundation for his arrangement. So far four volumes, each dealing with a special population, have been issued. The first number, treating the Bangala, shows the scheme and plan of the series. The published data regarding this people are here gathered, sorted, and presented in the order of the 202 questions which make up the questionnaire above mentioned. Each item is presented in the exact words of its author (i. e., untranslated) and the reference to its original source is always given. The matter is presented under bold-faced numerals, which refer to the sections of the questionnaire, so that any reader can turn at once to any special matter he may be seeking; thus, if he wishes data relative to religious ideas, he turns at once to the matter under the bold

numbering 100 to 122. The material is printed on pages perforated near the inner margin so that it can be easily detached. Thus any student may rearrange the material in any way to suit his convenience, or can bring together from different volumes all the material relative to a single theme. A small amount of original matter, heretofore unpublished, secured by oral or written inquiry, is also incorporated. The most significant of this new matter is communicated by Commandant Lothaire, who knows the Bangala as few do. A novel though difficult feature of the plan is to keep the work *au courant* with the literature, by issuing loose additional leaves from time to time upon which shall be new matter. These leaves will be supplied to subscribers at small cost. The idea is excellent; is it practicable? A *Bibliographie* and an *Iconographie* will be included in each volume, and will serve to direct the student to original sources. In the Bangala volume more than two hundred and twenty sources have been utilized. The aid to the student will be best appreciated when it is realized that most of these documents are practically inaccessible in the United States. Probably less than twenty-five per cent. of these articles and books can be found in our best-equipped centers of study. This renders van Overbergh's series essential to every one who plans to study the ethnography of this field.

Your reviewer indeed dislikes all questionnaires, but recognizes quite fully that they are necessary evils. They cramp and warp and worry the true field-worker; their artificiality is destructive of spontaneity; their exactions lead to unintentional and unconscious fabrication, suppression, and distortion. On the whole, these evils are worse for the field-worker than for the editor at home. In this series they will less affect the printed sources than the orally-examined ex-official's statements.

We lack space for detailed consideration of the contents of the volumes, but must be allowed a few words of comment upon each. The Bangala, of Central Africa, are typical river-folk. Their notable cicatricial forehead crest, their aggressive and progressive disposition, their flagrant cannibalism, their ready response to white man's contact, have made them well known. It was the Bangala who attacked Stanley on his famous journey down the river and who cried "*Nyama, nyama!*" at him and his people. The word means "animal" and "meat," and Stanley considered the cry as evidence of the cannibalism of this brave people. The incident has many times been quoted and always with his interpretation. Notwithstanding the thirty years' acquiescence in his dictum, I doubt its accuracy. I do not believe his Bangala cry of "Meat, meat!" significant of their desire to eat him. My African boys

regularly, when angry, called each other "*nyama*," beast or brute. Probably the Bangala cry at Stanley was the same—derisive and contemptuous, but not hungry. This criticism of course is not intended as an argument against the existence of cannibalism; it was there, and still *is* there. The Bangala were practically the first Upper Congo people to enter the white man's service, and for years they have supplied the crews and wheelmen of the river steamers. They have been a potent help in the work of development, and it has been possible for one writer to say: "The Bangala are to-day greatly attached to the whites, whom they have accompanied in all their peregrinations across the mysterious continent, and they say with pride 'Everywhere where, in Congo, a white man is buried, at least one Bangala lies by his side.' " One thing painfully impresses the reader of these volumes; we rarely get below the surface; plenty of writers describe villages, houses, dress, gardens, canoes,—few have aught of value to say upon religious ideas, social structure, and the like. Few trained observers have ever been in Africa. In the volume *Les Mayombe* the editor introduces some slight changes, as the result of criticism, or friendly advice. Thus, far more development is given to the topics 2 and 186 in the Questionnaire. Topic 2 concerns the *milieu*; topic 186 deals with relations with white men. Frankly, we think the editor overdoes both. Everyone admits the importance of information relative to the environment in which a people lives. Both sociologists and ethnographers demand some information of that kind in order to trace influences upon culture. But surely they do not need such a sketch of the Mayombe geology as Professor Cornet has obligingly prepared; nor do they need descriptions of a long list of forest woods. As *ethnographic*, the monograph is frightfully overloaded with such material, excellent enough in its place. Nor are a lot of descriptions of the tropical forest necessary, if two will convey all the information that a dozen will. Many of the Congo populations dwell in the forest; if we are to have a dozen volumes on forest dwellers and each gives a dozen descriptions of the forest, as ethnographers we shall be surfeited. The importance of data under No. 186 to the sociologist is so considerable that the ethnographer will waive his rights to some degree, but he really needs little upon details of colonial management, missions, preaching, and mission schools.

In *Les Mayombe* the editor introduces far more new and before unprinted matter. In reality comparatively little has been printed about the Mayombe. Very much is here given from officials in answer to personal interrogation. In his prelude van Overbergh tells us something of

these informants that we may know their competence. In this new matter the weaknesses of the questionnaire method show up strongly. To answer the carefully formulated questions the worthy gentlemen cudgel their brains to make some statement, whether they really have aught to say or not. Much of this matter is really worthless; this is not the fault of the men, it is the fault of a questionnaire, which *must* be filled. So far as the Mayombe are concerned they are a Lower Congo people, dwelling in the forest, in a considerable area lying back from and north of Boma. The country was a true "slave preserve" in the old days. Many, no doubt, of our American slaves came from that region. We cannot but wish that our editor had given us more clearly his grounds for treating the Mayombe as an ethnic unit. With what is it equivalent in taxonomic value? Is it really a term of the same order as Bangala, Mangbetu, Basonge? In *Les Basonge* we have no innovations. The editor has settled upon precise methods and the series has passed its experimental stage. The Basonge live in the Kasai district, upon the Sankuru and around Lusambo as a center. Pogge and Wissman found them a flourishing people with fine cultivated fields and great villages. They were people with a fine art spirit, and their iron-work was and still is famous. Unlike most Congo peoples, the Basonge held agriculture in so high esteem that men labored in the fields. The next white visitors found the country a land of desolation due to Arab invasion. Nothing better shows the uncertainty of African conditions than Basonge history. Our authorities for this second period are the participants in the Arab war—Fivé, Dhanis, Marinel, and others. Since that time a new prosperity has come. The late authorities are those officials who have been in charge at Lusambo and other parts. Best of these is Magistrate Robert Schmidt, who, while still at his station, took the trouble to conscientiously fill out the questionnaire of the Société. The whole of his matter is included in the volume and is undoubtedly the best *new* matter so far contained in the whole series. In the fourth volume, the Mangbetu are considered, Schweinfurth's Monbutto. Few books of travel have made the impression that his *The Heart of Africa* produced, and few tribes have been so really appreciated as his Monbutto; few native chiefs are so definite figures in the popular mind as King Munza. *Les Mangbetu* makes a bulky volume, running to nearly six hundred pages. Here again much unpublished matter is presented; of the several authorities Laplume and de Rennette deserve especial mention. The Mangbetu are still much as their earliest visitors paint them. On the whole our best informants are still Schweinfurth and Junker—and Casati. The best recent

printed matter is due to Christiaens. These *Monographies ethnographiques* of van Overbergh are truly the beginning of a vast enterprise, which is being well done and deserves encouragement. We shall hope to call more specific and detailed attention to the later volumes as they are issued.

FREDERICK STARR.

Mission Scientifique G. de Créquy Montfort et E. Sénéchal de la Grange. Antiquités de la Région Andine de la République Argentine et du Désert d'Atacama par ÉRIC BOMAN. Tome Premier contenant 2 Cartes, 32 Planches et 28 Figures dans le Texte. Paris: Imprimerie Nationale, 1908. 8°, xi, 388 pp.

This fine volume (a second containing an ethnographic study of the modern Indians of the Puna de Atacama, folk-lore of the Argentine Puna, archeological data, etc., is to appear shortly) is further evidence of the excellent work being done in the Atacaman and "Calchaqui" region of the Argentine, etc., by M. Boman. Pages 1-79 are taken up with the consideration of an ethnic map of the Andean region between 22° and 33° S. lat. in the sixteenth century. The next section (pages 81-212) treats in general of the archeology of the Diaguite or "Calchaqui" region — territory, ruins, art and manufactures, burials, petroglyphs, folk-lore, relations with ancient Peruvian culture. Then follow detailed archeological sections on La Paya (pp. 213-246), Valley of Lerma (247-318), La Quebrada del Toro (319-382). A bibliography of several hundred titles, to which references are frequently made, is to form part of the second volume. The present volume deals with researches made by the author in 1903 as a member of the G. de Créquy Montfort and E. Sénéchal de la Grange scientific expedition to the northwest of the Argentine. Previously, in 1901, M. Boman had shared in the Swedish expedition under Baron E. Nordenskiöld and investigated part of the Puna de Jujuy and the adjoining Bolivian region; and before that he had traveled in Catamarca and Tucuman. The historical sources of the ethnic map are Pedro Sotelo Narvaez, Alonso de Bärzana ("the Apostle of Tucuman"), Nicolas del Techo, Pedro Lozano, José Guevara, Pierre-François-Xavier de Charlevoix, etc. M. Boman restricts the term "Calchaqui" to the Calchaqui valley and its southern continuation, the valley of Yocavil (p. 96), using, as the larger and more general appellation, "Diaguite." The Calchaqui people and culture are for him a branch or division of "the Diaguites, who constituted an ethnic unity (both cultural and linguistic)," occupying, at the time of the Spanish conquest, "all the

mountainous region of the present Argentine territory from the Nevado of Acay and the Valley of Lerma at the north, to probably the Province of Mendoza at the south, except the Sierra de Córdoba, inhabited by the Comechingons, whose culture was somewhat related to that of the Calchaqui, but whose language was distinct from the Cacaú, the general speech of the latter" (p. 12). Of the many Diaguitan tribes the Calchaquis, who stubbornly resisted the Spaniards, were the most famous. The Diaguitan languages are long since extinct, but archeological evidences abound in the area in question. Beyond the Andes on the west were the Araucanians, but whatever relations existed between them must have been established by Inca-Peruvians. The Huarpes (Allentiac), M. Boman thinks, were a savage, allophyllic people, not related to the nations of the Andean valleys. The Comechingons of Córdoba did not speak the Cacaú language, nor did the Sanavirons and Indamas. The affiliations of the Tonocotés and Lules are still subject to some doubt from the linguistic point of view. The Atacaman stock occupied the desert of Atacama and the Puna de Jujuy (Sta Catalina, Rinconada, Cochinoca, Casahindo). The Uros or Changos, a savage people occupying the Pacific coast from Cobija to Huasco, the author identifies (without sufficient proof, however) with the Uros of the Titicacan region, whom he separates altogether from the people who spoke the Puquinan tongue, suggesting that "the Changos or Uros seem to be the last remains of an ancient people, who inhabited the country before the Yuncas, Quichuas, and Aymaras" (p. 70). The Omaguacas of the Quebrada de Humahuaca, etc., to the east of the Puna de Jujuy, spoke perhaps the language called Ocloya. The neighbors of the Ocloyas were the Guaycuruan Tobas. The name "Juris" found in the early documents seems to have been employed in a loose way, as e. g., was "Chunchos" in Peru.

The Diaguitan region is rich in pre-Hispanic ruins, which, however, "have nothing in common with the megalithic monuments of the great period of ancient Peru, but resemble rather what remains of the common buildings of the pre-Hispanic inhabitants of the high Peruvian and Bolivian plateau, described by Father Cobo" (p. 97). In the Diaguitan region, in pre-Hispanic times, lime mortar was unknown, stone walls with earth as mortar exceptional, and adobe walls rare. The most common ruins are *pircas*, or low, rudely circular or rectangular walls of stones without mortar, serving as the foundations or walls of dwellings. Fortified villages also occur (as at Loma Jujuy, Cerro Pintado, Fuerte Quemado, etc.). The chief ruins hitherto recorded in the Diaguitan region are: La Paya, near Cachi, in the Calchaqui valley (a large town); Hurvina;

Pampa Grande (described by Ambrosetti) ; Quilmes in the northern part of the valley of Yocavil, containing thousands of *piras* — perhaps the largest pre-Hispanic Diaguitan settlement known ; Anjuana ; Loma Rica, with a large burial-ground ; Loma Jujuy ; Cerro Pintado ; Fuerte Quemado ; Andahuala (these five all in the Yocavil valley) ; La Ciénega and Anfama, here chiefly circular alignments of stones, possibly older than the Yocavil valley ruins ; San Antonio de Cajon ; La Hoyada ; Guasamayo ; Cerro Colorado de Hualfin ; Batungasta (these ruins contain some round turrets of *tupia*) ; Pucará de Aconquija, a fortified camp of strategic importance ; Ciudadcita. In the provinces of La Rioja and San Juan pre-Hispanic ruins in considerable numbers also exist, but very little is known about them. In the southern portion of the Puna de Atacama, the ruins of Antofagasta de la Sierra, Antofalla, Botijuela, Vega del Cerro Gordo, etc., are probably Diaguitan. The "menhirs" (sometimes with pictographs, etc.), usually quite small (except those found by Ambrosetti in the Tafi valley), reported from Tastil, Pucará de Rinconada, Tafi, La Ciénega, etc., were probably of a religious or ceremonial nature. The "dolmens" found at La Ciénega by Quiroga, M. Boman considers to have been "only stones fallen naturally upon one another," true dolmens not existing in this region. Milling stones (*metates*) and "cups" in the rocks are common in these ruins. On the mountain slopes of the Diaguitan territory pre-Hispanic *andenes* (terraces for maize cultivation), so common in Peru, occur but rarely (e. g., at Sayate in the Puna de Jujuy). The so-called "Inca roads" seem not to be found, though pre-Hispanic roads may occur here and there. Interesting are the *apachetas*, or heaps of stones, set up on mountain paths, etc., to which the author attributes (p. 110) a Peruvian origin. The ancient Diaguitan region is rich in ceramic remains, but this art was far less highly developed than it was in Peru, — "the style, however, is Peruvian, and the processes also ; it is ordinary Peruvian pottery, without its *chefs-d'œuvre*, its refined and artistic specimens." Forms and decorations are varied. Funereal urns and urn-covers are of special manufacture. More or less crude statuettes of human beings, heads of animals, etc., are characteristic of Diaguitan ceramics. Objects of carved and cut stone include grooved axes, arrowpoints, etc., small figures of human beings and animals (the ancient Diaguitan were skilful in this art), — figurines of domestic animals, still used as talismans by the *metis* of this region and known as *illas*, cylindrical, circular, and fusiform stone objects of various more or less unknown uses.

In the Diaguitan region gold and silver objects of pre-Hispanic origin are rare (e. g. the gold ornaments from La Paya, probably Peruvian in

provenance; a specimen of silver from Rio del Inca), but copper (with a small quantity of tin) implements, ornaments, etc., are numerous, and almost all have their equivalents in ancient Peru (neither the copper bells of La Paya nor the ornamented disks may be genuinely Diaguitan). The only authenticated evidences of pre-Hispanic mining, according to M. Boman, are the *marays* and the remains of *huairas* (furnaces), seen, e. g., at Cobres, on the high plateau of the Puna (p. 135). Owing to the climate prehistoric objects in wood have rarely been preserved in the Diaguitan country; these include: the human figurine of Santa Maria, the sculptured tablets of Quilmes and Calingasta, Pucará de Rinconada, Calama, Chinchu, etc. Bone arrowpoints are found all over the Diaguitan territory; cut and carved bone objects (including engravings of human figures, etc.) are not at all rare. Pyrographic gourds also occur, but rarely, since so easily destructible by climate, etc. The textile arts of the ancient Diaguitans produced *ponchos* and other garments of the wool of a species of *Auchenia* (e. g., at Apacheta, Quilmes, etc.), excellent llama-wool fabrics (e. g. at old Tucuman). The *camiseta* or tunic of the Diaguitans was probably of Peruvian origin, and cotton seems to have been introduced into Tucuman by the Spaniards (p. 140). In the old tombs of the high plateau occur leather sandals, like those worn to-day by the Indians of the plateau and by the *métis* of the Argentine valleys. The sepultures and burial-places of the Diaguitan region represent a great variety in the way of disposal of the dead, etc., due, perhaps, to the presence, at different periods, of different peoples. The graves (isolated, in little groups, or forming considerable cemeteries) contain usually one or two individuals, rarely three or four. While at Chafiar Yaco and Pampa Grande urn-burial of adults occurs, the funerary urns found so characteristically in the Diaguitan region are generally devoted to young children, for whom special burial-grounds seem to have been provided (as e. g., at El Bañado, near Quilmes). These urns were often much decorated. Urn-burial of infants is unknown in the Ando-Peruvian region outside of its area in the Diaguitan territory, and M. Boman inclines to the theory of sacrifice in explanation of such occurrences, of which the ceremony of the *angelito*, practised by the *métis* of to-day, gives a hint (p. 167). Petroglyphs are very common in the Diaguitan region. Among them are the fine fresco of the cave of Carahuasi (department of Guachipas, Salta), discovered by Ambrosetti, who also found the painted caves of Churcal, Quebrada del Rio Pablo, Quebrada de las Conchas, Quebrada de la Bodega, Quebrada del Chuzudo, etc. Petroglyphs (human, animal, geometric figures) are on record from San Lucas

and Las Flechas, San Isidro, Anjuana, Loma Rica, Quilmes, Las Cañas, Las Chilcas, Loma Colorada, Andahuala, Ampajango, Minasyaco and Chapi, San Pedro de Colalao, San Fernando, Cerro Negro, Condorhuasi, Antofagasta de la Sierra, Peñas Blancas, Bajo de Canota, etc. In style, sign, and figures the Diaguitan petroglyphs exhibit no unity. Many of them, doubtless, are contemporaneous with the ancient ruins and burial-places.

The account of the ruins of La Paya resums the investigations and descriptions of Martinez, Delgado, Ambrosetti, etc. The Martinez collection was acquired by Ambrosetti for the National Museum at Buenos Aires, the new collection of Delgado for the Mission Française. At La Paya at least five different classes of pottery occur. Among the objects found here were a piece of bronze money of Constantine (307-337 A.D.) and a tooth of the modern horse, both due to the early Spaniards, and suggesting, if not post-Hispanic origins for some of the ruins, an early Spanish interference with them (pp. 242, 246). The cemeteries of El Carmen and Providencia, in the valley of Lerma, investigated in 1901 by M. Boman, are by him attributed to a Guarani people by reason of the burial in crude urns there employed (p. 262),—they represent a culture notably inferior to the Diaguitan. The tumuli of Pucurá de Lerma (investigated in 1901-1903) seem not to have been graves, but served, perhaps, some ceremonial use (p. 292), like the *kuri* or altar in front of the huts of the modern Indians of the Puna. In the valley of Lerma were also investigated the ruins of Carbajal, Tinti, etc. The pre-Hispanic ruins of the Lerma valley are very heterogeneous, representing, doubtless, different epochs and different peoples. This valley seems to have been occupied before the Diaguitans, by "a people of a much inferior artistic development, probably Tupi-Guarani, immigrating from central Brazil" (p. 318). In the region of the Quebrada del Toro, etc., are described the burial place of Golgota, the village of Morohuasi with its cemetery, the pre-Hispanic roads from Morohuasi to Incahuasi and Payogasta, the petroglyphs of Quebrada del Rosal, the village of Puerta de Tastil, the petroglyphs of Quebrada de las Cuevas and Incahuasi (Acay). All three villages investigated in the Quebrada del Toro, according to M. Boman, date approximately from the period of the Spanish conquest (p. 381). Their ethnic affinities have not yet been determined, but the cultural remains forbid classification with the Diaguitans or with the Atacamas.

That the pre-Hispanic Indian population of the Diaguitan region was quite numerous is shown by the fact that, allowing a family of four individuals to each of the 800 enclosures indicated, the ancient settlement of

Tastil would have contained some 3000 souls (p. 378). At the present moment there are in the region about Tastil only some 50 Indians, eking out a miserable existence. Quilmes, in the Yocavil valley, must have been still larger (p. 102). The population of the whole Diaguitan territory was, of course, not at all so dense. At pages 183-185 M. Boman rejects the theory, attributed to Ambrosetti, of "a common origin of the Calchaquis and the Pueblo Indians of New Mexico and Arizona," a view based upon certain archeological and ethnological resemblances, which are more reasonably interpreted as phenomena of convergence. As to the question of the relations between ancient Peruvian and pre-Hispanic Diaguitan culture, M. Boman, for archeological (*pircas*, *andenes*, ceramics, copper objects, textiles, petroglyphs, etc.), linguistic (Quichua was adopted by the Diaguitans before the Spanish Conquest), folklore (the chief legends and personages known to the Indians of the region to-day are of Peruvian origin, — Pachamama, Chiqui, Llastay, Huairapuca, Pucllay, etc.), and historical (evidence in Montesinos, Garcilaso, and Pachacuti) reasons, reaches the conclusion (p. 187) that "the Diaguitan culture formed an integral part of the Ando-Peruvian culture, and emanated almost entirely from ancient Peru, the difference between the two not being greater than existed between different parts of the Inca empire, e. g., between the Entre-Sierras of Peru and the region of the Collas." The Yunca region, he thinks, presents ethnographic differences more marked than the Diaguitan. The Peruvian origin of Diaguitan culture is due probably to Inca domination, but not necessarily so. In the opinion of the reviewer, this Peruvian origin is by no means proved.

The second volume of M. Boman's work will be welcomed by all interested in the archeology and ethnology of this remarkable region of South America.

ALEXANDER F. CHAMBERLAIN.

Dictionnaire historique des Canadiens et des Métis français de l'Ouest. Par le R. P. A.-G. MORICE, O. M. I. Québec-Montréal-Saint-Boniface, 1908. 12°, pp. xli, 329.

This new volume by Father Morice interests the anthropologist by reason of the data concerning the French *métis* of the Far West of Canada. Among these halfbreeds the Athabaskan stock is represented by J.-B. Adam (interpreter to Sir John Franklin; in 1821 he joined the tribe of the Couteaux-Jaunes), F. Beaulieu (the first French Athabaskan *métis* on record, born in 1771 of a Montagnais mother; he made a map for Sir John Franklin; died in 1872 as chief of the "Yellow-Ribs"), B. Pépin, guide and *aide* to Mgr. Grandin, when about 13 years of age, in 1863,

and for long afterward well known as guide, etc., in the region west of the Great Slave lake), P. Saint-Germain (interpreter for Sir John Franklin in 1821; son of a Montagnais mother), X. Tourangeau, etc. The Kutenai is represented by the *Morigeon* family of the Columbia lakes, noticed by Father De Smet in 1845. De Smet spells this name differently, and, when the writer of this notice was at the Columbia lakes in 1891, the descendants of this man called themselves *Morigeau*. The Siouan stock counts the Rainvilles or Renvilles, notable in the history of the American Northwest. The Algonquian stock is represented by large numbers of French-Cree and French-Ojibwa (and Sauteux) *métis*, not a few of whom have risen to distinction in the social and political world of Manitoba and the provinces to the west. One misses from Father Morice's list here Hon. John Norquay, premier of Manitoba in the '80's. The *métis* seem also to have often furnished chiefs to various Indian tribes, Athabaskan and Siouan in particular. The first *métis* to become a priest of the Catholic church was P. Beaudry, ordained in 1901 by Mgr. Grandin. To the sketch of Father Lacombe (pp. 139-142) others of priests and missionaries of more or less note might, perhaps, have been added.

ALEXANDER F. CHAMBERLAIN.

SOME NEW PUBLICATIONS

AMERICAN ETHNOLOGICAL SOCIETY. Transactions. Volume III, part 1. New York: George P. Putnam, 1853. "Reprinted in facsimile by the American Ethnological Society, 1909." 8°, iv, 202 pp.

A facsimile reprint of this rare publication, most of the original edition of which was destroyed by the burning of a printing office. The papers composing the volume are: I. Observations on the Creek and Cherokee Indians, by William Bartram, 1789, with Prefatory and Supplementary Notes by E. G. Squier. II. Observations on the Archaeology and Ethnology of Nicaragua, by E. G. Squier. III. Rio Wanks and the Mosco Indians, a Letter from Don Juan Francisco Irias. IV. A Choctaw Tradition: Extracts from a letter to the Ethnological Society, by Rev. C. C. Copeland. V. The Aborigines of the Isthmus of Panama, by Berthold Seeman. VI. Cuban Antiquities, a Brief Description of Some Relics found in the Island of Cuba, by Andres Poey, of Havana.

BOMAN, ÉRIC. Antiquités de la Région Andine de la République Argentine et du Désert d'Atacama. Tome I. Mission Scientifique G. de Créqui Montfort et E. Sénéchal de la Grange. Paris: Imprimerie Nationale, 1908. Roy. 8°, xi, 388 pp., 2 maps, 32 pls., 28 figs.

See review, page 307.

CHERVIN, ARTHUR. Anthropologie bolivienne par le Dr. Arthur Chervin, membre de la Commission des Voyages et Missions et du Comité des Travaux Historiques et Scientifiques au Ministère de l'Instruction Publique, etc. Tome II. Anthropométrie. Paris: Imprimerie Nationale. Librairie H. LeSondier, 1907. 4°, iv, 435 pp., 13 figs.

DELAFOSSÉ, MAURICE. *Le Peuple Siéna ou Sénoufo*. (Reprinted from *Revue des Études Ethnographiques et Sociologiques*.) Paris: Paul Geuthner, 1908-1909. 8°, 107 pp., 8 pl.

DOUGLAS LITBROW, R. A. *Dictionary of American-Indian Place and Proper Names in New England; with many Interpretations, etc.* Salem, Mass., 1909. 8°, xxii, 400 pp.

GOULD, GEORGE M. *Righthandedness and Lefthandedness, with Chapters Treating of the Writing Posture, the Rule of the Road, etc.* Philadelphia and London: J. B. Lippincott, 1908. 16°, 210 pp., ill.

HEWITT, EDGAR L. *Ancient Ruins of the Southwest*. Issued by the Passenger Department, Denver and Rio Grande Railroad. [Denver, 1909.] 24 pp., ill.

HADLIČKA, ALEŠ. *Tuberculosis among certain Indian Tribes of the United States*. Bulletin 42, Bureau of American Ethnology, Washington, 1909. 8°, vii, 48 pp., 22 pl.

LEHMANN, WALTER. *Methods and Results in Mexican Research*. Translated from the German by Seymour De Ricci. Paris: 1909. 12°, ii, 127 pp.

Originally published in the *Archiv für Anthropologie* (vi, 1907, p. 113-168) and now translated and published at the expense of the Duc de Loubat.

MILLS, WILLIAM C. *Certain Mounds and Village Sites in Ohio*. Vol. 2, part 1. *Explorations of the Seip Mound*. Columbus, Ohio: F. J. Herr Printing Co., 1909. 4°, 57 pp., ill.

MUMFORD, EBEN. *The Origins of Leadership*. A Dissertation submitted to the Faculty of the Graduate School of Arts and Literature in Candidacy for the Degree of Doctor of Philosophy (Department of Sociology). Chicago: University of Chicago Press, 1909. 8°, iv, 87 pp.

SOMLO, F. *Der Güterverkehr in der Urgesellschaft*. Notes et Mémoires Instituts Solvay, Fasc. 8, Bruxelles, Leipzig, 1909. 8°, viii, 186 pp.

SPECK, FRANK G. *Ethnology of the Yuchi Indians*. Dissertation presented to the Faculty of the University of Pennsylvania for the degree of Doctor of Philosophy. University of Pennsylvania, Anthropological Publications of the University Museum, Vol. 1, No. 1. Philadelphia: 1909. Roy. 8°, 154 pp., 16 pl., 42 fig.

STARR, FREDERICK. *Ethnographic Notes from the Congo Free State: An African Miscellany*. Proceedings Davenport Academy of Sciences, Davenport, Iowa, 1909, vol. xii, pp. 96-22, 13 pl., figs.

STEWART, CAROLINE T. *The Origin of the Werewolf Superstition*. University of Missouri Studies, Social Science Series, vol. II, no. 3, pp. (iv-) 37. Columbia, Mo., 1909.

WEULE, KARL. *Native Life in East Africa*. Translated by Alice Werner. London: Sir Isaac Pitman & Sons, Ltd., 1909. Roy. 8°, 432 pp., 200 ill.

WISSLER, CLARK, *ed.* *The Indians of Greater New York and the Lower Hudson*. Anthropological Papers of the American Museum of Natural His-

tory, vol. III. Hudson-Fulton Publication. New York : 1909. 8°, xv, 242 pp., 23 pl., 39 figs.

A series of interesting and timely articles, as follows : The Lenapé Indians of Staten Island, by Alanson Skinner ; Aboriginal Remains on Manhattan Island, by James K. Finch ; The Indians of Washington Heights, by R. P. Bolton ; Archeology of Manhattan Island, by Alanson Skinner ; The Rock-shelters of Armonk, New York, by M. R. Harrington ; Indian Rock-shelters in Northern New Jersey and Southern New York, by Max Schrabisch ; Ancient Shell Heaps near New York City, by M. R. Harrington ; Notes on the Mohegan and Niantic Indians, by F. G. Speck ; Archeology of the New York Coastal Algonkin, by Alanson Skinner.

WISSLER, CLARK. Notes Concerning New Collections. Anthropological Papers of the American Museum of Natural History, vol. II, part III, 305-372 pp., 22 pls., 23 figs. New York : 1909.

An elaborate descriptive catalogue of the more important ethnological collections received, otherwise than through field research by the Museum staff, from 1906 to 1908.

FOREIGN NOTES

GROOVED AXES IN EUROPE

IN the southern part of Italy, chiefly in the province of Calabrie, grooved axes are from time to time found by the peasants, by whom they are regarded with awe and thought to be "thunderbolts" of mysterious origin. Probably twenty such specimens are preserved in various Italian collections, but few are to be found elsewhere. The Kircheriana Museum in Rome has several very good examples which are similar to the ordinary grooved axe of the Mississippi valley and eastern United States.

Three grooved axes recovered from a station of the Bronze age on the Lake of Bourget, in Savoie, are to be seen in the museum at Chambéry, France. All are made of a hard stone and there appears to be no question of their authenticity. One specimen has a high ridge on each side of the groove, the groove and ridges extending entirely around the axe. The most interesting of the three is of the double-edge type; it is rather thin, but well proportioned, with a groove passing round the middle. The material is diorite. The third specimen is of the ordinary American form.

There is a small grooved axe in the Historical Museum in Neuchatel, Switzerland, but it is without doubt an American specimen.

Nilsson, in his work on Scandinavia, figures and describes grooved axes. One is of diorite, another of hornblende. They were found in Scania, the southern province of Sweden, but they are evidently even less numerous there than in Italy.

D. I. BUSHNELL, JR.

PREHISTORIC REMAINS AT OLYMPIA

THE investigations of the German School at Olympia, according to *The Hellenic Herald* for April, 1909, have resulted in the discovery of many remains of prehistoric date, and may be said to have set beyond doubt the truth of the old legends which ascribed the importance of Olympia to a time before the Dorian invasion, about the beginning of the first millenium before our era. Excavations have been made under the supervision of Dr Dörpfeld around the Metroon and the Treasuries, where remains of early and small dedicatory temples were found. At a depth of two meters below the foundation of the Metroon, and six meters

below the surface ground about the Treasuries, were found many ancient habitations which must be dated 2000 B.C. In a black sandy stratum were found sherds and other earthenware objects, which in their form and incised decoration show clear kinship with pottery found on neolithic sites, "contemporary with Pelops and Enomaos," says Dr Dörpfeld.

AN ANCIENT DUG-OUT

WHAT is perhaps the largest prehistoric relic found in England has just been secured for the Hull Municipal Museum, according to *Nature* for May 27. This is the well-known "dug-out" boat found during excavations at Brigg, Lincolnshire, in 1886. The boat is cut from a single piece of oak, more than 48 feet in length and 6 feet in width—a much larger size than any oak tree living in Britain to-day. With the boat were found many interesting relics, and these have also been presented by Mr V. Cary-Elwes. Mr T. Sheppard, the curator of the museum, has successfully removed the boat to its new quarters, where it forms a welcome addition to the already large series of Lincolnshire antiquities.

Fru SIGNE RINK

WE regret to announce the death, April 19, in Kristiania, Norway, of Fru Signe Rink, widow of the late H. Rink, formerly Danish governor of Greenland and supervisor of the Greenland commerce, and known all over the world for his valuable contributions to the ethnology of the natives of Greenland and the Eskimo people generally. Fru Rink survived her husband many years, and was the author of several little books and other writings on the tales, home life, and traditions of a people with whom she had a partial connection by blood. Probably no one in Europe had a more intimate knowledge of their character, though it was with difficulty she could be persuaded to the publicity of authorship. Personally she was of a most kindly, hospitable, and vivacious disposition, and her death will leave sorrow in many hearts. A daughter resident in Kristiania survives her. — W. H. DALL in *Science*.

ANTHROPOLOGIC MISCELLANEA

Kutenai Basketry.— Neither in G. Wharton James' *Indian Basketry*¹ nor in the late O. T. Mason's comprehensive monograph on *Aboriginal American Basketry*² is any basketry of the Kutenai Indians described or figured. In the list given on pages 367-372 of Professor Mason's work as including "the names of those tribes known to collectors as makers of any kind of basketry, especially in North America, together with the linguistic families to which they belong, and their locations," the Kutenai (or Kootenay) are not mentioned, and the collections in the United States National Museum at Washington apparently contain no specimens of their basketry. The Kutenai, however, have manufactured and used a considerable variety of objects and utensils coming properly under the head of basketry. Captain Palliser,³ who visited the Kutenai country in 1857-1860, mentions their "plates and dishes of basket-work from pine root." In the fifty years that have elapsed since his visit the art of making the water-tight basket of split roots has been almost forgotten by the Upper Kutenai, though still in use among the Lower Kutenai, who are slower in abandoning their aboriginal characteristics than the former have been. One of these root-baskets, collected by the present writer among the Lower Kutenai, is now in the Ethnological Museum of the University of Toronto. It was figured in his Report on these Indians to the British Association for the Advancement of Science in 1892,⁴ and appears to be, up to the present, the only specimen of Kutenai basketry on record. The general term for these root-baskets is *yitski*, and from the fact that they were used to hold water in stone-boiling, etc., they have come to be known among the Indians who know some English as "kettles," and the term is now often applied to the corresponding cooking utensils of the whites. The *yitski* was of all sizes, from very small ones (toys perhaps) to some, two feet or more in diameter, used for transportation, storage, and other like purposes. Another sort of wickerwork vessel, or basket, of the Lower Kutenai, is termed *nā'hēk*, a name also given to certain "baskets" of birch-bark. The Kutenai also manufactured a conical basket-trap for

¹ Second edition, Pasadena, Cal., 1902, 274 pp.

² Rep. U. S. Nat. Mus., 1902, Washington, 1904, pp. 171-548.

³ Journals, etc., London, 1863, p. 90.

⁴ Eighth Report on the N. W. Tribes of Canada, London, 1892, p. 23.

fish, known as *yá'ká*, the inverted cone in the center being called *yá'ká ná'na*, i. e. little *yá'ká*, and also *d'qkizaw'tis yá'ká*, i. e. "the heart of the *yá'ká*." In connection with the *yá'ká* was used a sort of dam of wicker-work and sticks termed *áqk'wá'kqô*. The grass bags of the Nez Percés were also known to the Kutenai at *átsôt*. From the reed or rush known as *tá'ná't* the Kutenai used to make simple mats, with which they covered their lodges. Palliser says (p. 161), in reference to the flat and swampy land to the south of Flatbow (Kutenai) lake: "From these swamps also the Kootanie Indians obtain the klusquis or thick reed, which is the only article that serves them in the construction of their lodges, and the klusquis is an article of barter with them to the other tribes, whose lands do not produce this necessary." That the Kutenai, at this time, possessed only "rush lodges," is, however, not correct, as indeed appears from another passage in the *Journal*, when we read (p. 95): "We came upon a few recently deserted tents of the Kootanie Indians; these, unlike the buffalo-skin lodges of Indians on the Eastern side of the Rocky Mountains, are formed of flat boughs of the cyprée and pruche, and are covered with birch-bark."

ALEXANDER F. CHAMBERLAIN.

The Pan-American Scientific Congress, held at Santiago, Chile, December 25, 1908, to January 5, 1909 reached the following agreement with reference to ethnological museums and the study of anthropology, which will prove of interest to all students in the Western Hemisphere:

Ethnological Museums. — The Pan-American Scientific Congress agrees:

(1) To recommend to the governments of the American republics the desirability of building in each geographic zone, ethnological museums in order that the existing archeological material may be increased and that the investigations in this field be encouraged.

(2) To solicit from the governments of these republics the adoption of the resolution agreed upon by the scientific congress at Montevideo in which it is urged that the objects of ethnologic value found in old cemeteries, etc., be declared public property.

(3) To recommend to these governments to regulate the manner in which excavations may be made, so that they may be made only by persons with proper authority.

Study of Anthropology. — The Pan-American Scientific Congress recommends the adoption of the following steps in order that the study of anthropology may be furthered:

(1) The founding of a chair of anthropology in the universities where such chair does not yet exist.

(2) Elementary studies of anthropology should be added to the study of natural sciences in secondary schools.

(3) An office of anthropological measurements should be established in every school, and the data obtained should be published periodically.

Shell Embroidery from Florida. — The curious example of shell-work shown in figure 66 is preserved in the Pitt-Rivers Museum at Oxford, England. It was formerly in the Ashmolean collection.

The specimen is said to have been collected in Florida about 1865, but nothing more is known of its history. Only one other piece of work

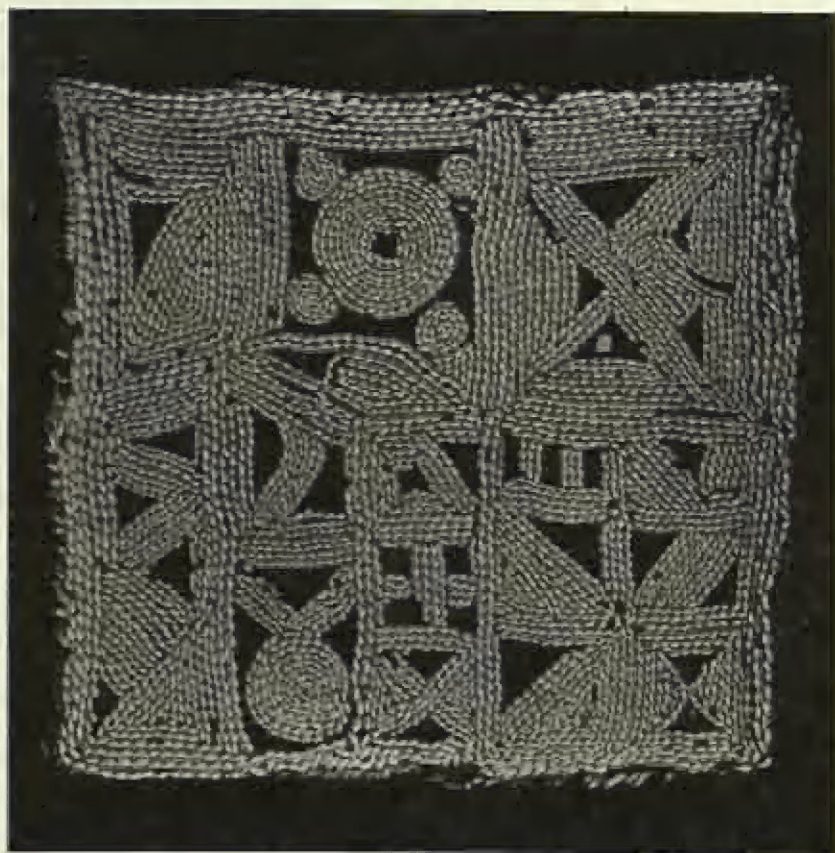


FIG. 66. — Shell-embroidered fabric collected in Florida, 1865.

of a similar nature can be traced by the writer — the unique piece in the Ashmolean Museum bearing the label "Pohatan, King of Virginia's Habit," which has already been described and figured in this journal (N. S., 1907, vol. 9, p. 38, pl. v). The decoration of the Virginia specimen is formed of the small shell *Marginella nivos*, which differs

only slightly from *Marginella labrosa*, similarly used on the piece from Florida.

The Florida example is $19\frac{1}{2}$ inches square, woven or braided of a fiber, evidently native, but which has not been identified. A narrow strip of rawhide is woven along the edge, apparently intended to form a border.

It is not possible to say what the different parts of the decoration may have been designed to represent, and the piece as a whole is quite unlike anything known in American collections.

D. I. BUSHNELL, JR.

Radical Defects of Ethnology. — Ethnologists have done somewhat more than sociologists to make their field definite, still there are some grave shortcomings in the present condition of the study. Ethnologists claim to study races, but with all the progress of science there is not only a general lack of agreement on the question as to what constitutes a race, but ethnology has not taken enough care to determine the meaning of the word itself. Does the term *race* denote people of to-day who resemble each other in one or more particulars, physical or cultural, whatever their parentage may be, or does it denote people who are born of the same stock, whatever their present similarities or dissimilarities? Passages may be singled out from the writings of almost every eminent ethnologist which would serve to show that he has confused these two ideas. There can be no middle course. Adopting such, one would simply multiply blunders and create confusion in the science. If ethnologists are to take account of *de facto* similarities or dissimilarities, studies in philology would have very little to do with the classification. Mankind should be examined and classified regardless of past history.

What should the principle in our classification be? Should it be skin color, or hair section, or facial or nasal indices, or physiological systems? There is no general agreement in accepting one and rejecting the rest. No rule has been laid down, no guide to the selection of such a principle. If we accept the historical import of the word *race*, then the studies would take a somewhat different form. In this case what we would desire would not be the present similarities or dissimilarities, but we would want to recover the history of human migrations and of the formation of races. In tracing this history all information which deductions from philology, the measurements of skull, nose, face, height, and section of hair, the determination of pigmentation, etc., could give, would prove useful data, not for classification but for history. Thus our study

of races would be a study of the separations, migrations, isolations, convergences, and intermixture of peoples.

In his lectures on ethnology Professor Walter F. Willcox of Cornell University has given a rule for choosing the principles for classification. In biology, species are classified with reference to the relative permanence of different characteristics; in the opinion of Professor Willcox the same principle may be applied to the study of the races. I have not seen this view clearly expressed in any of the treatises on ethnology, although it possesses merits well worthy of consideration by the students in this field. If this view be accepted, inquiry into the relative permanence of different physical characteristics of man should be undertaken, and its acceptance would bring about more definiteness to the science.

What inquiry should be assigned the term *ethnology* need not be dwelt upon. I only insist that the two inquiries should be properly differentiated and a suitable name be assigned to each.

SHRIDHAR V. KETKAR.

HARVARD UNIVERSITY.

Indian Stone Constructions near Salton Sea, California. — At the request of Professor W. H. Holmes of the Bureau of American Ethnology, an examination was made of alleged Pueblo ruins on the border of the Salton sea, which recently have been the subject of highly-colored press notices. The ruins are situated at the extreme edge of the great sink, nine or ten miles south of Thermal, a station of the Atlantic and Pacific R. R., about 135 miles east of Los Angeles. In company with Mr B. F. Bond, who first brought the site to notice, the writer visited the locality, which is of the most forbidding character. The high-water line of the old sea is plainly marked, and below it occur seven terraces within a distance of about 500 feet from the ruin of the cliff and with a vertical drop of about 75 feet. The beach is covered with weatherworn and rounded masses of granite, of all sizes, from that of a marble to pieces weighing tons, but chiefly about the size of a pail. At the lowest well-defined terrace are pens varying in size from a few feet to 12 by 14 feet, having three sides, the opening being northward, or toward the old sea. The walls are built of stones, laid loosely, with base broad enough to retain the original height of 3 to 3½ feet. Small irregular stones cover the bottom, which often slopes at an angle of five degrees to ten degrees. On the open side of the pens is a pile of stones occupying approximately one-third of the distance between the wings and about as high as the side walls. The pens in the main line are about 30 feet apart and extend for

hundreds of yards along the terrace, while above and below the line are many not so well preserved and less uniform in shape. The surface about the pens is bare rock and shows no traces of human occupancy, but along the old well-defined trails leading from the sea back into the cañons and up into the high mountains, and in some other places, are found fragments of the most inferior red-brown undecorated pottery.

Clearly these constructions were not habitations, and their scattered situation on the terrace precludes the theory that they were gardens.

At the missionary's house at Martinez, an intelligent young Mission Indian said that his people regarded the stone pens as fish traps and state that their traditions relate that their ancestors made and used them for catching fish, the open side next the sea being for the purpose of holding the net when the tide was going out. This seems the most plausible explanation of the purpose of these curious structures. The Indian also said that some of the ancient houses of his people back in the mountains are of stone, and that they had places of burial and ceremony.

P. G. GATES.

SOUTH PASADENA, CALIFORNIA.

British Association Meeting. — The provisional program of Section H (Anthropology) of the British Association for the Advancement of Science, for the Winnipeg meeting, beginning August 25, has now reached us, says *Nature*. In arranging the proceedings of the section an attempt has been made, so far as possible, to cover the latest developments in anthropological science. Dr T. Ashby, director of the British School at Rome, will deal with archeology in the western Mediterranean; Mr R. M. Dawkins, director of the British School at Athens, with archeology in the eastern Mediterranean; and Mr D. G. Hogarth with the archeology of Asia Minor, with special reference to the Hittites. Miss Breton will review the present state of our knowledge of the arms and armor and of the physical type of the ancient inhabitants of Central America. It is hoped that the first results of an expedition which Dr Haddon is now conducting among the natives of the western coast of North America may be available for the meeting. A number of prominent anthropologists of the United States have promised to contribute to the proceedings of the section. Among these may be mentioned Dr Franz Boas, who will deal with anthropological problems in Canada; Miss Alice C. Fletcher, who will read a paper on her work among the Omaha people; papers will also be contributed by Dr Gordon, of the University of Pennsylvania, and Mr Clarence B. Moore, of Philadelphia. Dr Harry Piers, of Halifax,

Nova Scotia, will deal with our present knowledge of the natives of Nova Scotia, and Mr C. Hill-Tout will present his final report on the natives of British Columbia. The valuable reports which have been presented to the Association from year to year by Mr Hill-Tout are the results of work undertaken under the auspices of the Canadian Ethnographic Survey Committee of the British Association, now defunct. In this connection it may be mentioned that papers dealing with the urgent necessity for an ethnographic survey of Canada will be contributed by Mr E. S. Hartland and Dr F. C. Shrubbsall. Professor J. L. Myres is president of the section.

Dr J. D. E. Schmeltz. — We regret to announce the death of Dr J. D. E. Schmeltz, director of the State Museum of Ethnography at Leyden,



J. D. E. Schmeltz

Holland. Dr Schmeltz was born at Hamburg in 1839 and began his work in the Godeffroy Museum in that city, whence he was called to Leyden in 1884 as assistant of Dr Serrurier. Later he became director

of the Museum, and the development of the collections during the last twenty years has been due to his untiring energies. He was the founder and editor of the *Internationales Archiv für Ethnographie*.

The American Ethnological Society has reprinted Volume III of its Transactions, containing the important paper by William Bartram on the Creek and Cherokee Indians, written in 1789, and also the papers by E. G. Squier on the Archeology and Ethnology of Nicaragua, by J. F. Irias on the Rio Wanks and the Mosco Indians, by C. C. Copeland on a Choc-taw Tradition, by Berthold Seeman on the Aborigines of the Isthmus of Panama, by Andres Poey on the Antiquities of Cuba. The original volume was never issued, almost the whole edition being burned with the printing establishment. It is claimed that only fifty copies of the original edition were saved, but presumably a smaller number was preserved. The volume may be obtained from the American Ethnological Society, Sub-Station 84, New York City. The price is \$1.25.

An Alabama Anthropological Society has been established. It is composed of twelve active members, residents of Montgomery, and of such associate and honorary members (an unlimited number) as may be hereafter elected. There are to be twelve meetings each year, each member submitting one paper. It is planned to issue from time to time publications of a scientific nature and a yearly bulletin containing the twelve papers submitted during the year. The first regular meeting took place on July 22. The officers are: Thomas M. Owen, LL. D., president; Herbert B. Battle, Ph.D., vice-president; Peter A. Brannon, secretary; Buckner Beasley, treasurer. The proceedings of the Society will appear in the next issue of the *American Anthropologist*.

PROFESSOR FREDERICK STARR of the University of Chicago plans to leave for Japan early in September. His trip will cover ten month's time, of which eight months will be spent in the Island Empire, with headquarters at Tokyo. While he has many subjects of minor interest for investigation during his proposed trip, Professor Starr has two main purposes in view: (a) by aid of competent hired readers to get at the valuable anthropological, ethnographical, and archeological material contained in Japanese books—a mass of important matter almost unknown and inaccessible to the outside world; (b) to make one of the most complete photographic records of Japan yet taken—scenery, life, arts and industries, architecture, etc. A moving-picture apparatus, a stereoscopic outfit, and high-grade regular cameras will be carried to the field; Mr Manuel Gonzales, his regular photographer, will accompany Professor Starr on the entire expedition.

THE LIVERPOOL UNIVERSITY INSTITUTE OF ARCHÆOLOGY is publishing an excellent quarterly, in octavo form, under the title *Annals of Archaeology and Anthropology*. Although the first issue did not appear until September, 1908, the remaining numbers of Volume I were published before the close of the year. The number before us is devoted chiefly to papers on classical archeology, and is well illustrated. The periodical is edited by Professor J. L. Myres, in collaboration with F. P. Barnard, R. C. Bosanquet, J. G. Frazer, T. W. Gann, J. Garstang, J. G. Milne, P. E. Newberry, and T. G. Pinches. Under such favorable auspices it is hoped the new magazine will have support commensurate with its scientific and historical value.

MR F. C. COLE of the Field Museum of Natural History, Chicago, who returned from the Philippine islands the first of the year, will depart again for that field in October, accompanied by Mrs Cole, for the purpose of continuing his ethnological researches in the southern islands of Mindoro, Palawan, Mindanao, and Negros. Since the untimely death of Dr William Jones, Mr S. C. Simms has been sent by the Museum to the islands for the purpose of continuing the task which Dr Jones had so well begun. It is the intention of Mr and Mrs Cole to make comparative studies in Borneo and the Malay archipelago before returning to the United States.

MR WILLIAM H. SAMSON and Dr Wheelock Rider of Rochester, N. Y., have commenced the publication of a series of reprints, known as the "Rochester Reprints." Wheelock's *A Plain and Faithful Narrative of the Original Design, Rise, Progress and Present State of the Indian Charity-School at Lebanon, in Connecticut* (Boston, 1763), and Penhallow's *The History of the Wars of New-England, with the Eastern Indians* (Boston, 1726), are among the reprints that have already appeared.

ON February 1 of this year the departments of natural history of the Museo Nacional of Mexico became an independent establishment under the name Museo Nacional de Historia Natural, and the museum hitherto bearing the name Museo Nacional became the Museo Nacional de Arqueología, Historia y Etnología. The first number of the *Anales* of the latter museum has appeared under date of May, 1909.

DR S. A. BARRETT has been appointed curator of anthropology of the Public Museum of the City of Milwaukee. Under a Wisconsin law this museum recently established an Historical Department which carries with it a considerable annual appropriation that can be used for that purpose only. An addition covering 19,000 square feet and four stories in height is now being built for this department.

DR CARL LUMHOLTZ has gone to the arid regions of Sonora, Mexico, and the upper part of Lower California to make ethnological research among the Pima, Papago, and Cocopa Indians. He will also study the physical geography of the little-known region between Rio Altar and the mouth of the Colorado. Dr Lumholtz will be gone until next winter, returning in February or March.

PROFESSOR F. W. PUTNAM has resigned the active curatorship of Peabody Museum, Harvard University, and the professorship of anthropology in the University of California, and in recognition of his services has been appointed honorary curator of the Peabody Museum and professor of anthropology, emeritus, in the University of California.

AN oil portrait of the late Dr Daniel Garrison Brinton has been presented by Mrs Brinton to the University of Pennsylvania. Dr G. B. Gordon made the presentation address at the commencement exercises, June 16, and the portrait was accepted in behalf of the trustees by Provost Harrison.

DR R. VERNEAU has been promoted to the professorship of anthropology at the Museum of Natural History, Paris, recently made vacant by the death of Professor Hamy. The position of assistant to Professor Verneau has been filled by the appointment of Dr P. Rivet.

DR FRANK G. SPECK has been appointed instructor in anthropology in the University of Pennsylvania, not in the University of California as has been announced. Dr Speck will spend part of the summer among the Montagnais Indians of Canada.

A GRANT of 4000 francs from the Bonaparte fund of 25,000 francs has been made by the Paris Academy of Sciences to M. Chevalier to assist him in carrying on his geographical and ethnographical researches in the French colonies in tropical Africa.

AT THE annual meeting of the Anthropological Society of Washington, held April 20, Dr J. Walter Fewkes was elected president, Mr James Mooney vice-president, Dr John R. Swanton secretary, and Mr George C. Maynard treasurer.

PROFESSOR F. W. PUTNAM has been elected honorary member of the Società Italiana d'Antropologia, Etnologia e Psicologia Comparata of Florence, Italy. Since 1887 he has been a corresponding member of this society.

SIR FRANCIS GALTON has made a further donation of £500 to the maintenance of the Laboratory for National Eugenics under the direction of Professor Karl Pearson of the University of London.

THE Lucy Wharton Drexel medal of the University of Pennsylvania has been awarded to Rudolph Ernest Bruennow in recognition of his exploration and scientific research in Arabia and Syria.

By the will of Miss Emma Sarah Wolfe bequests of £1000 each are made to the Royal Anthropological Institute of Great Britain and Ireland and the Royal Archaeological Society.

DR GEORGE A. DORSEY has obtained leave of absence from the Field Museum of Natural History, Chicago, and will spend the next three years in Europe.

DR ROLAND B. DIXON, assistant professor of anthropology in Harvard University, is spending the summer in New Zealand and Australia.

DR A. M. TOZZER of Harvard University has been given leave of absence for 1909-10 to carry on archeological investigations in Guatemala.

DR A. W. NIEUWENHUIS has succeeded the late Dr Schmeltz as editor of the *Internationales Archiv für Ethnographie*, published at Leiden.

WE regret to record the death, on March 6, of Professor August Mau, noted especially for his archeological researches in Pompeii.

DR FRANCIS GALTON was elevated to a baronetcy on the occasion of King Edward's birthday.

American Anthropologist

NEW SERIES

VOL. 11

JULY-SEPTEMBER, 1909

No. 3

DISTRIBUTION OF THE NON-CHRISTIAN TRIBES OF NORTHWESTERN LUZON¹

By FAY COOPER COLE

THE mountain region of northwestern Luzon, included in the provinces of Ilocos Sur and Ilocos Norte, the sub-provinces of Abra, Apayao, and that part of Kalinga bordering on them, is inhabited by some 35,000 non-Christian people. Owing to the broken nature of the country, the lack of trails, and especially to the enmity existing between the various villages, numerous dialect groups have sprung up. Loose unions imposed by necessity, advantage, or marriage have held certain towns together, while others, because of their size and the greater daring of their warriors, have gained a certain supremacy in their territory. The Spaniards and early American travelers gave to these various divisions the designation of tribes, regardless of the fact that many were in the same culture and linguistic groups, and varied not at all in physique. Thus in the region outlined we find the following tribes enumerated: Negritos, Aetas, Adangs, Igorrotes, Apayaos, Kalanasans, Nagbayuganes, Calauas, Dadayags, Banaos, Guinaanes, Burics, Itnegs, and Tinguianes. The terms *Alsado* and *Kasamento* were often applied to the mountain people. The former designated any of the wilder head-hunting tribes, the latter those somewhat under the influence of civilization. In his article "The Non-Christian Tribes of Northern Luzon" Commissioner Worcester showed the fallacy of such classification and gave in general the territory occupied by the

¹This paper embodies some results of an extended investigation amongst certain tribes of Luzon, undertaken for the Field Museum of Natural History, the investigation having been made possible through the generosity of Mr Robert F. Cummings of Chicago.

tribes recognized by him. For this classification he used the word "tribe" as follows: "A division of a race composed of an aggregate of individuals of a kind and a common origin, agreeing among themselves in, and distinguished from their congeners by physical characteristics, dress and ornaments; the nature of the communities which they form; peculiarities of house architecture; methods of hunting, fishing, and carrying on agriculture; character and importance of manufactures; practices relative to war and the taking of heads of enemies; arms used in warfare; music and dancing; and marriage and burial customs; but not constituting a political unit subject to the control of a single individual nor necessarily speaking the same dialect." Accepting this definition, for the present, this article will endeavor to show under which tribes the people enumerated above should fall, and to note a few of the more important features which distinguish them one from the other.

In the northwestern part of Luzon the writer recognizes the following tribes:

- I. Negritos (Aetas, Agtas, Adangs).
- II. Igorots (Igorrotes).
- III. (a) Tinguians (Tinguanes, Tinggians, Tingians, Itneg, Burics). (b) Apayaos (Ishneg, Kalanasans).
- IV. Kalingas (Dadayag, Banaos,¹ Nagbayuganes, Guinaanes,¹ Calauas).

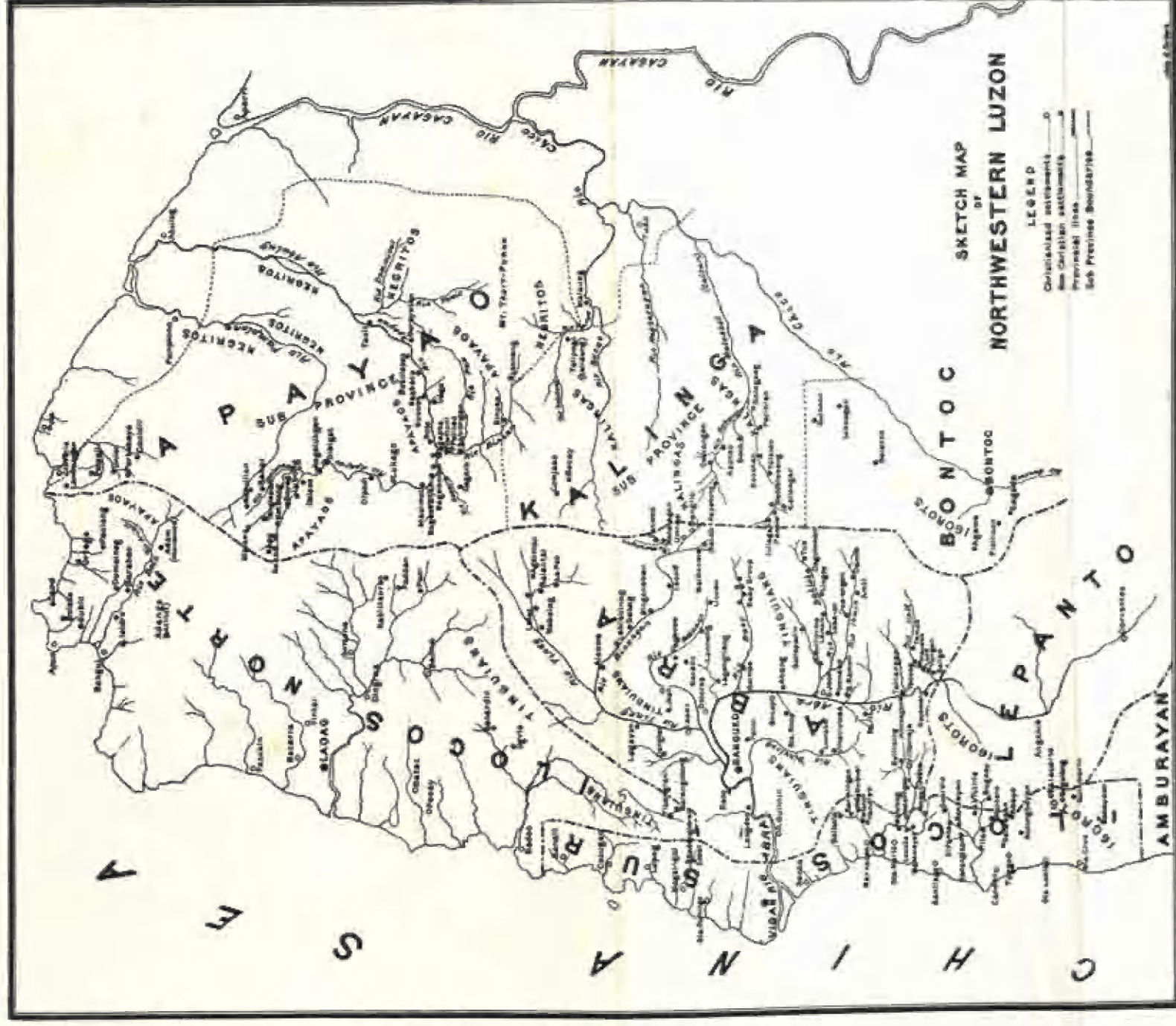
In general the names in parenthesis are synonyms, but the following refer to special groups:

The Adangs were a small group of Negritos who formerly inhabited the western slopes of Mt Adang, Ilocos Norte.

The Burics never existed as a group. The word means "tattooed" and might be applied to any person so decorated.

Group III (b) — the Apayaos — present many features in common with the Tinguians and are classed with them by Commissioner Worcester. The points of similarity and divergence will be noted later. The Kalanasans are those Apayaos who live along the river of that name. Because of their many hostile raids on the northern coast of Luzon, they have been designated as a distinct people.

¹ Mixed with Igorots and Tinguians.



In the fourth division, the name Dadayag is given to a dialect group of Kalingas who live on the lower Saltan (Malokbot) river. The Banaos, who inhabit the headwaters of the same river, are related to the Dadayag, but are much mixed with Igorots and Tinguians. The Nagbayuganes occupy the region west of Malaueg. They claim to be related to the people of the Saltan river and of Bucay (Bicay) and Comjaas; there has also been some intermarriage with the Apayaos of the north. Guinaan is a powerful village made up of Kalingas, Igorots, and a few Tinguians. During the Spanish regime this place proved itself so troublesome that the Spanish overestimated its numbers and came to regard the inhabitants as a tribe.

THE NEGRITOS

The Negritos at one time were doubtless distributed over the entire northwest of Luzon. Today one small band is found near the southern border of Ilocos Sur and Abra; a second is reported in the mountains south of Bangui in Ilocos Norte. Considerable numbers are found along the Abulug river and its tributary, the Rio Dommital; also bordering the Pamplona river, and to the southwest of Mt Taut-Purak.

Unmistakable evidences of Negrito blood are met with among individuals of the other tribes, while all the Negritos seen by the writer in this region were mixed-bloods. With the exception of those in the vicinity of the Abulug river they have adopted the dress and many of the customs of their neighbors, and in every case their language.

THE IGOROTS

Various writers have stated that Igorots are to be found in Ilocos Norte, and the most recent map¹ gives them as the mountain inhabitants of that province. This is quite erroneous, as no Igorot settlements exist in that district. In Ilocos Sur, south of Vigan, all the non-Christian towns, except those later designated as Tinguian, are Igorot colonies mostly from the vicinity of Agawa, Sagada, and Fidilisan, but five villages near the Amburayan border are made up largely of emigrants from that district. Kadanglaan, Pila, Kolongbuyan (Sapang), and Montero are mixed Igorot and

¹ World Book Company, 1908.

Tinguian. Villaviciosa, Mayabo, Tacueg, Laok, Yangan, Baliga, and Gayaman in southern Abra are Igorot colonies from the neighborhood of Sagada.

Amtuagan, Talnangan, and Barit are made up of Igorots and Tinguians. The towns along the Ikmin and Buklok rivers also have a considerable amount of Kalinga and Igorot blood brought in by migrations from Balatok and the towns of the upper Saltan valley.

These Igorots have been much influenced by their neighbors — the Ilocanos, Tinguians, and the Lepanto-Benguet Igorots, who live just to the south. They have adopted the housebuilding, costumes, and methods of dressing the hair of the surrounding people. The men no longer circumcise, and only a few have the elaborate tattooing seen in Bontoc. Physically they are quite readily distinguished from the people to the north. They are darker in color, the face is broader, the nose wider and the ridge usually concave, and the eyes less widely open (plate XIII). The legs are shorter and the whole body is more heavily set.



FIG 68. — Igorot house. (Photograph by Philippine Bureau of Science.)



FIG. 69. — The men's house — Igorot.

Most of the migrations into this region occurred in comparatively recent times, the quest of better land being given as the reason. It is probable that a whole *ato*,¹ or *dapai* moved at one time and formed a separate village, for we find the new settlement known as *dapai*. It has a men's house, in which unmarried men and boys sleep, general councils are held, and which also serves as a store-house for ceremonial paraphernalia, drums, and the like.

There is no women's house corresponding to the *clag* of Bontoc, but the people know of the institution and say it existed in earlier times. As there are no *atos*, or divisions of the village, the system of exogamy has broken down and the only restriction placed on marriage is that of blood relationship. Trial marriage has been supplanted, but divorce is easily obtained and any cause of disagreement may result in a new mating.

Ancestor worship, the belief in *anitos*, and the ceremonies connected with their religious life are almost identical with those of

¹ A political and exogamic division of an Igorot village.

their relatives in Bontoc; but the supreme being *Lumawig* is here known as *Kabonlyan*.

The typical dance is that seen by the writer among the Benguet-Lepanto Igorots. A line of male dancers stand abreast with their arms on each others' shoulders. Behind them are the women. The leaders of each line hold sticks at arms-length in their free hands and point them to the ground as they dance. One of the men sings a few words addressed to the women, and the others join in, repeating what he has chanted; in turn they are answered by the women. Meanwhile a slow step to the side or forward, or an occasional stamping of the feet is kept up. A drum and *gansas* (copper gongs) furnish the music.

THE TINGUIANS

To the north of these Igorots is the great Tinguian belt. In Ilocos Sur, south of Vigan, are the mixed Tinguian and Igorot towns already noted, and the following true Tinguian settlements: Ballasio, Nagbuquel, Vandrell, Rizal, Mision, Mambog, and Masinget. In Ilocos Norte the entire non-Christian population as far north as Kabittaoran belongs to this people. The same condition prevails in Abra, except for the Igorot settlements already mentioned, and certain migrations from the Cagayan side. The towns of the Ikmin valley are made up of emigrants from Balatok. Tue, near the headwaters of the Buklok river, is a colony from Balbalasang. The other towns on that stream are principally Tinguian, but all have received additions from the Saltan river region, Lubuagan and Guinaan.

Sallapadin and the Baay river villages are Tinguian mixed with the Saltan river people, including the Gobang group. Licuan, Lenneng, Buneg, Ginganaban, Bakag, Lablabinag, and Lacub have received many emigrants from the Gobang group, and the people of the last four have many relatives in the towns along the headwaters of the Rio Tineg. Agsimao and the surrounding villages are Tinguian, with a considerable mixture of Apayao and Kalinga blood.

It has already been noted that there is some Tinguian influence along the Saltan river, in Lubuagan, Guinaan, and Balatok, but it is



MAN AND WOMAN OF THE IGOROTS
(Photographs by the Philippine Bureau of Science)

more in culture than in actual relationship. A few towns in Lepanto are much influenced by this people, and Commissioner Worcester reports a Christianized Tinguian settlement in Pangasanan. This tribe, consisting of about 20,000 individuals, is quite sharply marked from the Igorots to the south and southeast. Both men and women are slighter and more lithe than the Igorots. In color they are somewhat lighter, but the greatest difference is observable in the face, which is longer and narrower. The cheek-bones are more prominent; the root of the nose is higher, and the ridge usually straight; the eyes are set farther apart, are more widely open, and the Mongolian fold is less prevalent (plate XIV).

The men wear their hair long, and comb it into two strands which are twisted and crossed in the back, then carried forward where they are intertwined on each side of the head. A bark headband holds the strands in place. The women's hair is also long; it is parted in the middle, but is combed in one strand which is caught up at the back by a string of beads; it is then twisted and formed into a loop which is fastened under the beads near the left ear (plate XV).

The typical dress of the men consists of a breech-clout and a belt, and for special occasions a long-sleeved jacket which extends below the waist. The women wear a short-sleeved jacket, and a narrow white shirt reaching from the waist to the knees. A finely plaited girdle fits about the hips, and to this a clout is attached. Beads are worn on the arms, about the neck, and in the hair. Beneath the beads of the forearm the women are elaborately tattooed; but the men seldom have more than a small design on hand, arm, or thigh.

The type of house building differs radically from that of the Igorot (compare figures 68 and 70), as does the arrangement and government of the town.

A Tinguian village is not divided into *atos*. There are no exogamous groups, neither are there separate houses for unmarried men or girls. Marriages are contracted by the parents while the children are very young, and the union not infrequently takes place before either of the couple reaches puberty. Circumcision is not practised, nor are there any observances connected with puberty.

The old men of the village constitute its ruling class. One of these, because of his better fitness, is called *lakay*, and is really the head of the community. All matters of dispute of whatever nature come to his attention, and if he deems it necessary he summons the other old men in council. Young men have little or no influence in the government. The standing of women is much higher than with the neighboring tribes. While the woman's husband pays a price for her, she is not considered in any sense a slave. She has equal rights to take her grievances to the *lakay*;



FIG. 70. — Tinguian houses.

any property she may possess belongs to her in her own right, and upon her death it passes to her children or relatives. Polygyny is not practised, but many men keep concubines. Children of such a union are considered legitimate, but the woman has none of the rights of a wife. The division of labor is about equal.

In his religious life the Tinguian is again easily distinguished from his neighbors. He recognizes one supreme spirit — Kadaklan — and more than a hundred and fifty subservient spirits, for whom elaborate ceremonies are conducted and spirit structures erected.



TINIAN MAN

A sharply marked though unorganized priesthood forms the medium through which the higher beings communicate with the people.

These spirits are not the souls of the deceased. The latter go to a place midway between earth and sky, where they live much the same life as they did on earth. When the period of taboo following a funeral is past, the spirit goes to its final home and no longer influences the living. They are not worshipped, and, aside from one ceremony made "to take away the sorrow," no offerings are made to them.

The Tinguians have extensive and well cultivated fields, mostly devoted to the growing of rice, corn, and tobacco, though considerable quantities of vegetables are raised. Horses, cattle, and other domestic animals known to the Ilocano are quite numerous.

The man is an ardent hunter, and even in the more peaceful valleys spears are common. Bolos (long knives) are carried fastened to the belt, and serve both as implements and weapons. The mountain man still clings to his spear, shield, and headaxe. The latter comes from the towns along the headwaters of the Saltan river, and has a wide distribution over the Tinguian and Kalinga belts.

THE APAYAOS

The Apayaos are found along the Apayao river from its headwaters to its junction with the Abulug. The Cordillera Central forms their western limit, except for a recent migration from Dagara Sabungan (Babangan), and vicinity, to the towns along the Rio Tineg. To the south their influence predominates as far as Lenneng, and considerable intermarriage has taken place with the inhabitants of the towns about Talipogo and the west.

In the north, at the end of the island, they make up the entire non-Christian population, with the exception of the Negritos. Padsan, in Ilocos Norte, is a colony from the vicinity of Auan, a village near the source of the Apayao river.

In color, features, and measurements, the men resemble closely the Tinguians of Abra, but two exceptions should be noted: The zygomatic arches of the latter people increase in breadth nearly up to the tragus, while those of the Apayaos reach their maximum breadth about midway between the outer eye angle and the tragus.

The distance between the inner eye angles of the Apayaos is greater than in the Tinguians. The women are of shorter stature and are broader in face and features.

In clothing and manner of dressing the hair there is considerable difference. The men allow the hair to grow long, except over the forehead where it is banged in a line with the eyebrows. It is combed out and the long strand looped over the fingers on the right side of the head; it is then carried over the crown to the other side and turned back. A cloth band, usually red, lavender, and yellow, retains it in place. Strings of beads, colored flowers, scented grasses, and the like are often added for ornamentation. The women do not bang the hair, and headbands of darker colors are worn, but in other respects they dress it like the men. (Plate XVI.)

A band of cloth, generally of light blue and with the ends fringed or embroidered, serves for the man's clout. A short jacket, reaching to or just below the navel, completes the costume. These jackets are made low in the neck and have colored bands of fringe added to the sleeves and lower edge. Those worn by the women are made higher in the neck and reach two or three inches below the breasts, but seldom to the skirt, so that a portion of the skin is always observable. Short skirts, extending from the waist to the knees, are worn by the women, and below these are bark clouts; but they do not possess the girdles which are in universal use in Abra. Both men and women wear neck-dresses of beads and round sections of carabao horn. From these are suspended pendants of mother-of-pearl. The typical arm beads of the Tinguians are not seen, nor do many of the women tattoo the forearms. The men have a sort of cuff tattooed on the back of the wrist and hand.

The man's weapons are a spear, headaxe, and shield, all of peculiar form, though the latter has some distribution in the Kalinga field. Bows and arrows are used to a limited extent, but have doubtless been borrowed from the Negritos.

The houses, while not presenting such a sharp line as exists between those of the Tinguians and Igorots, still possess certain features which distinguish them from either of those people. The common type is the elevated one-room structure, made of bamboo, with floor of *runo* or rattan. The bamboo roof is covered with



TINGUIAN WOMAN

nipa palm or grass. The door is a series of bamboo slats tied together; it is fastened above the opening and is allowed to fall full length during the absence of the owner. There are no large windows, and the room is lighted almost entirely by the doorway and such light as can enter through the floor. Small peep-holes are cut in the walls (figure 71). One or more structures of carefully hewn



FIG. 71. — Apayso house.

wood are to be found in each town. They are longer than the average dwellings and have roofs of a peculiar type. From within the roof has the appearance of an inverted boat. The lower layer is of runo, and above this is a layer of nipa palm or bamboo halved and laid in the manner of tiles. A low seat extends along the walls of the room, and at the end opposite the door it becomes higher and wider, forming a sort of bed on which two or three men can sleep. Drums and ceremonial paraphernalia are kept in such houses, and in them dances and festivals are held, but they also serve as regular dwellings.

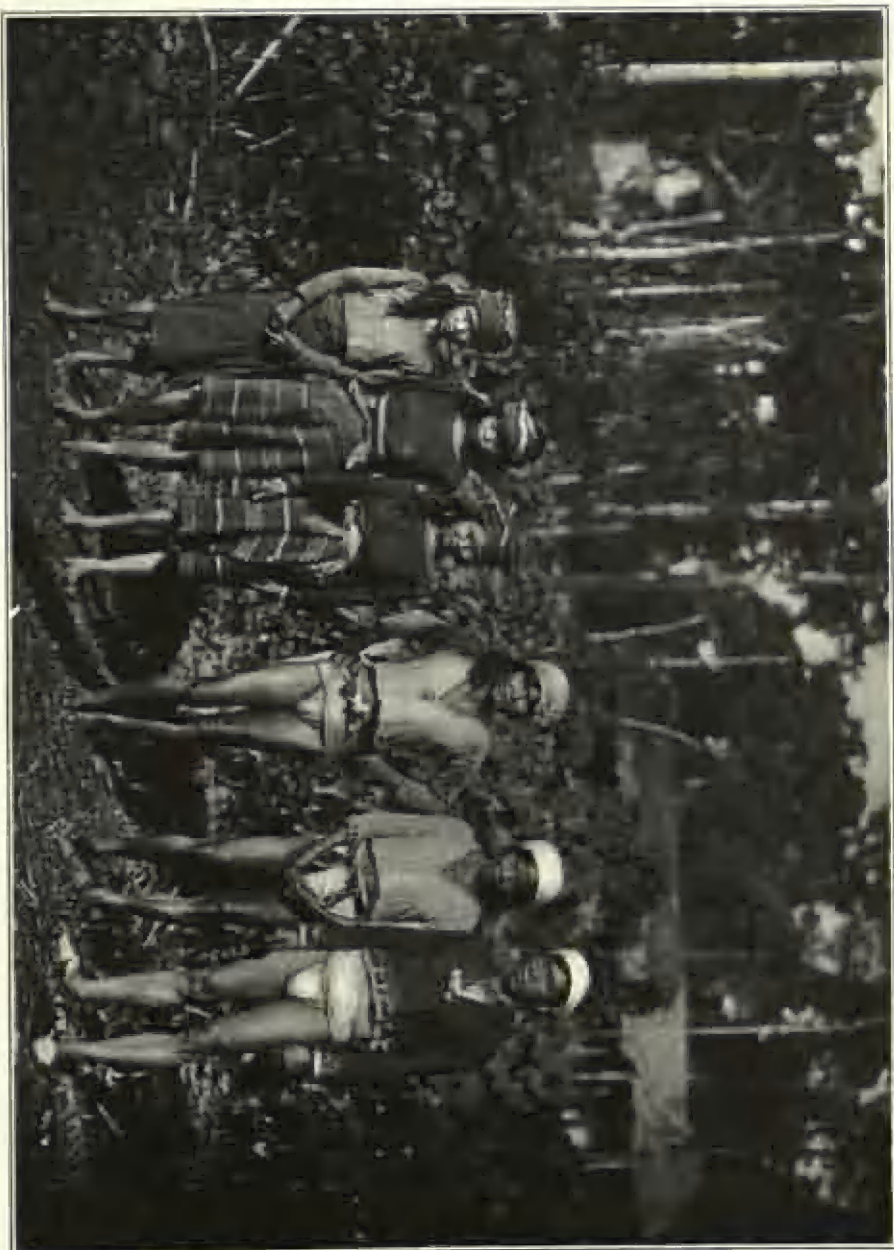
Agriculture is in a much lower stage than with the Tinguians.

There are no irrigated fields, but considerable rice and some vegetables are raised on the dry land. Their domestic animals are dogs, pigs, chickens, and cats; all except the latter are eaten, though dogs are generally reserved for ceremonial or festival occasions.

The men are skilful hunters and fishermen. They also do the heavy work in constructing houses and clearing the land. Beyond these duties they seldom exert themselves except in their favorite sport — head-hunting. After a death the family of the deceased may not eat any food except corn until the men of the village go to fight. The warriors don white headbands and go to some hostile town. If they meet their enemies, they must fight, but failing to find them in the way, they can return home without having attacked the village. Other head-hunting raids are purely for revenge or to pay "the debt of blood," for a head must be redeemed by taking another from the victors. Heads are not taken to aid in the recovery of the sick, or to secure better crops, nor are the trophies exhibited in the head-baskets offered to the spirits. The display of a head at the town gate is meant as an insult to the dead and his relatives. If it is broken up and distributed to the men of the village, it is done that the recipients may remember the valor of the taker.

Only six towns of Apayao take the whole head. The others cut away the skull-cap, leaving the remainder, "because it is very dirty." A head having been obtained, the men hurry home and hold a celebration. The skull-cap is placed on a rice mortar, and the women dance about it. The men do not dance there, but may do so in the house. A dog, a pig, and a chicken are killed, *basi* is furnished, and the town makes merry for several days, after which the skull-cap is placed in a head-basket at the entrance to the village.

The Tinguians of Abra have been head-hunters until recent years, but most of the towns have now given up the sport and have settled their differences by the exchange of gifts. The custom of going out to fight after a death was identical with that of the Apayaos, but the procedure after a head was secured was somewhat different. The entire head was carried to the village and put by the town gate.



APAYAO GROUP—GOVERNOR VILLAMOR ON THE RIGHT

A great celebration was soon made, for which animals and liquor were prepared in abundance. The brain, lobes of the ears, and joints of the little fingers of the victim were put in the liquor and the whole thoroughly stirred before it was passed to the guests. The dance following was the *Daing*, which is unknown to the Apayaos. Before the close of the celebration the skulls were cut into small pieces and distributed among the guests.

In government certain differences appear. Each town is a pure democracy. The boy who is able to stand the trips, to hunt and fight, is on an equality with the oldest, and he joins the councils of the men without reserve or restraint. The man who, by his prowess in battle and by his wisdom, has won the respect of his fellows, may become a sort of headman called *mana-én*, but he has no real authority.

Disputes are settled by a general meeting of the people. All discuss the differences and usually the opinion of the majority prevails. Payment of presents is the usual method of ending difficulties. The woman, while not taking an active part in the management of the town, is very independent. Her property is distinct from that of her husband, and she has equal rights in presenting her troubles to the general council. Ownership and inheritance of property are the same as in Abra.

Marriage is not contracted by the parents. The youth chooses his mate and usually presents her parents with a headaxe, some plates, and beads, but there is no purchase price. Polygyny is common, many of the men having two or three wives. In some cases the wives live in different houses or towns, but not infrequently they all reside in the same house. Their children are all on the same plane and share equally in their father's property. There are no exogamous groups, but marriage between near relatives is prohibited.

The highly developed ceremonial life of the Tinguian is but feebly represented. The most simple ceremony for the cure of sickness is identical with both groups. The function following the rice harvest is here known as *Sayám*, and during its progress a peculiar instrument known as *tong-tong* is played. The greatest of the Tinguian ceremonies is *Sayáng*, and the identical instrument is

called *tong-à-tong*. However, the celebration does not follow the rice harvest, and in most other features is radically different. The many spirit structures found in Abra are here unknown.

A great number of spirits, some of them the spirits of the dead, are always near at hand to aid or injure the living, but only a few are known by name. A class of mediums, much the same as those already described, are reputed to call the spirits into their bodies and to procure advice from them, but they seldom talk with the people when so possessed.

The dance music is the same as that of the Abra people, except that it is much faster, and the long drum replaces the short one. The typical dance is much like the *Tadek* of the Tinguians, but is faster, and there is more violent motion and more movement of the hands and arms. *Daing*, the ceremonial dance of the western mountain slopes, is unknown, as are most of the typical songs of that region.

The language, like that of the Tinguians, gives many evidences of being primitive Ilocano, but the grammatical forms are much less developed than in the dialects of the west and southwest. About thirty-five per cent. of the words in common use are traceable to the same roots as those of Abra.

THE KALINGAS

The writer has not followed out the limits of the Kalinga territory toward the east and south, so for the purposes of this paper only that portion bordering the sections already mentioned will be described. To the north the Kalingas extend almost to Dagara and Lenneng, though Apayao influence extends south of those points. To the west the Cordillera Central is the general boundary, but they have mixed to a considerable extent with the people of Aagsimao and vicinity. The towns on the Malibcum and Matalagan rivers are all made up of emigrants from the Gobang group, Bucay (Bicay), and Comjaas. They are influenced by Tinguian culture, but there has been little, if any, intermarriage.

Kalingas predominate along the upper Saltan river, where they have married with the Igorots and Tinguians. South of this region their influence is strong in Lubuagan and Balatok, but the Igorots



MAN AND WOMAN OF THE KALINGAS

(Photographs by the Philippine Bureau of Science)

predominate as Bontoc is approached. The towns of the upper Salitan river have drawn much from the three tribes which have contributed to their population, but the Tinguian material culture is the most pronounced. The typical costumes, method of hair-dressing, and the arm beads of the women, in vogue in Abra, are all found here. Agriculture is extensive, and the terraced fields compare favorably with those of Bontoc. All kinds of domestic animals known to the natives of the coast are possessed by these people. The best ironwork of northern Luzon comes from this section, and their headaxes and spears have a wide distribution over the whole Tinguian and Kalinga territory.

The *lakay* gives way to the headman, whose wealth or influence gives him considerable real power.

Marriages are arranged by the boy and the girl. The youth carries wood to the house of the maid he desires, and if she favors the suit, she will go to his house to pound rice or perform some similar duty. On an appointed day the friends assemble to celebrate the event, but no ceremony is performed. No price is paid for the girl, though a small present is usually made to her parents.

The *Tadek* dance of Abra is known, but the circle dance of the Bontoc Igorots is the more common.

North of these towns, along the Gobang river, is a section which, because of the almost impassable trails and the poverty of the people, has seldom been visited. Here we find the least influenced people of the region.

In height and color the men resemble the people of Abra. The hair, which is brown black, is banged across the forehead and behind the ears, where it is allowed to fall freely or is gathered up, twisted, and held in place by a sort of skull-cap of rattan. Wavy hair is not uncommon. The cheek-bones are high, but the manner of hair-dressing accentuates this feature. The eyes are more widely open, and set farther apart than with their western neighbors, while a peculiar startled expression is always observable in them. Ear-plugs of bamboo rings or cotton are worn by many of the men; the ring presses the lobe forward so that it lies in a plane with the jaw. (Plate xvii.) The clout and belt form the typical dress of the men, though a few have obtained jackets in trade.

Physically the women differ little from those of Abra. Their hair is allowed to grow long, and is coiled and held in place by strings of beads. Similar strings, with sections of bone attached, are worn about the neck. Beads are not worn on the arms, but elaborate tattooing, often extending to the shoulders, takes their place. Heavy earrings of brass or gold or mother-of-pearl stretch the ear-lobes to a considerable extent. None of the women weave, so all cloth for their clothes comes in through trade. Their skirts



FIG. 72 — Kalinga dwellings.

are about the same in shape and size as those of the Tinguian women, and like them they wear the clout and girdle. Any kind of cloth serves for clothes, and not infrequently beaten bark is used. Most of the women leave the upper part of the body exposed, but a well-made jacket of bark cloth, reaching just below the breasts and open in front, is frequently worn. Both men and women are fond of brass wire, which is worn about the neck or on the fore-arms. When used as an arm ornament it is cut into separate rings, the smallest coming at the center of the arm, the others ranging larger toward the wrist and elbow, giving it an hour-glass form.

The teeth of most of the adults are blackened in the manner employed in Abra.

The villages consist of small clusters of houses, placed in almost inaccessible spots on the mountain side. Protection may have played a large part in the selection of a site, but in the whole region there is no level ground on which a town might be erected. The houses are mostly of pine, with an inner roofing of runo and an outer topping of cogon grass (figure 72). The typical dwelling has two rooms, the side boards of which extend to the ground, but the floor is raised about three feet. As one enters he is on the ground in a small rectangular space. It is here that rice is pounded, or corn husked, in rainy weather. The remainder of this room has a raised floor. Heavy articles are stored here, and it is sometimes used to sleep in. The inner room is reached by a ladder from the rectangular space, and is separated from the outer room by a pine partition and a movable door. No provision is made for ventilation, other than a small window in the end of the room, and as that is usually closed and the fire burning, the room soon becomes filled with smoke, blinding the eyes of a person standing erect and giving a rich shiny black surface to everything inside. This is the true living-room. At night the occupants gather close about the fire, and, spreading their mats, they talk and sing a low wailing song, quite different from the *daleng* of the Tinguians; or perhaps they play on short bamboo mouth flutes. One by one they fall asleep: all is quiet until the fire dies and the chill mountain air rouses one of the sleepers, when his noisy attempts at fire kindling again waken the company. Then the singing and playing are resumed.

The nature of the country prevents extensive agriculture. The steep mountain sides, largely of a clay formation, and the long rainy season, which continually cuts away the soil, make rice fields impossible. Only mountain rice can be raised, and that in limited quantities, for the wild pigs and birds get most of the crop. Plots of grass are burned off, and, with a planting stick, the woman makes a few holes in the ground, drops in the seed, and awaits the harvest. Weeding or care of the crop seems never to be thought of. Camotes and aba are grown close to the village, where the dogs can protect

them from the wild pigs. Sugar cane requires less care than rice or camotes, and one often sees good stands of it on the mountain side. The chief product of the region is tobacco. Wild tomatoes and various greens help to furnish variety for the table, while small peppers furnish a condiment. Salt is obtained from the Igorots. Horses, cattle, and carabao are, of course, unknown in this region. Pigs are raised in considerable numbers, as are chickens and dogs. The latter are usually kept for hunting, but are eaten if no pig is to be had.

No ironwork is done in this section. Most of the spears are fitted with bamboo points, but those of metal, as well as the head-axes, come from the vicinity of the Saltan river. The long tapering shield, with three prongs above and two below, is typical of this and the greater part of the Tinguian belt.

The typical dance is the same as in the Saltan river towns, but the *gansa* players squat on the ground with the coppers against their thighs as in Abra. *Da-eng*, the ceremonial dance of the west, is not known here by that name, but the part in which the participants dance in a circle while singing is used.

The headman possesses almost supreme power in his own village; aside from this the government, ownership of property, and inheritance are the same as in Abra. Polygyny is common.

Kabontán is the only one of the Tinguian spirits known to this people. *Lakwat*, a female spirit, is considered the most powerful, while *Bum-mabakal*, *Gum-mabal*, and *Saó'd* keep close watch over the lives of men. Lightning and thunder also are spirits. A class of mediums, similar to those found in Abra, directs the ceremonies and makes known the wishes of the superior beings. The spirits of the dead (*kad'dak*) live in the sky, and sometimes join those of the living, in dreams. They are not worshipped. Three of the shorter Tinguian ceremonies are found here, but their elaborate rites are not practised.

The writer did not witness the celebration of a successful head-hunt, but the disposal of a head and the preparation of the liquor, as described by Commissioner Worcester, seem to be identical with the Tinguian's practice. However, the latter part of the function, in which the victors act out and recount their success, is quite dis-

tinct. The annual ceremony of exhibiting the heads, meanwhile consulting the spirits as to whether or not more are needed to insure abundant crops, seems to indicate a greater religious motive for the sport than exists among their neighbors to the north and west.

Commissioner Worcester describes the Kalingas to the east and south as being much better dressed, possessing more ornaments, and having irrigated fields.

The structure of their language is similar to that of the Tinguians, but is not so complex. Many words are in common use among both people, but the Kalinga pronounces with sharp staccato tones, which makes his dialect difficult for strangers to understand.

CONCLUSION

The intermarriages, which have been noted, indicate that these tribes flow into one another, so that sharp lines separating their habitats cannot be drawn. However, certain traits distinguish them one from another. The Negrito stands as representative of a different race from the other three divisions. These latter fall into two classes, with the Igorots as the representatives of one. The Tinguians, Apayaos, and Kalingas, while having certain distinctive features, still present no such radical differences among themselves as are met with in the Igorot. This applies not only to physique, but to social organization, government, religion, and housebuilding.

FIELD MUSEUM OF NATURAL HISTORY
CHICAGO

AN ANTILLEAN STATUETTE, WITH NOTES ON
WEST INDIAN RELIGIOUS BELIEFS

By J. WALTER FEWKES

AMONG the undescribed specimens in the Smithsonian collections is the cast of a figure of stone that shows marked resemblance in technic to known Antillean idols. This image was not included among those considered in the author's memoir on the "Aborigines of Porto Rico,"¹ as its relationship was not recognized when that paper was prepared. Moreover, there is uncertainty regarding the place of origin of the specimen from which this cast was made. The resemblance in its technic to images from Santo Domingo, in the West Indies, is so pronounced and detailed that the author has prepared the following description, drawing attention to these resemblances and offering certain general observations on the character of the figure.

On consulting the National Museum catalogue, it was found that the cast was made in 1863 for the Smithsonian Institution from the original then in the collection of the American Philosophical Society of Philadelphia, which apparently was deposited with other specimens in the collections of the Academy of Natural Sciences, possibly in 1879. On a visit made by the author to that institution, Miss H. Newell Wardle kindly showed him the original specimen and collected for him the scanty information available concerning it.

In the absence of reliable data to be had from catalogues or other sources with regard to the place of origin of this specimen,² the author is thrown back on its general character for conclusions regarding its cultural relationships. Fortunately the Antillean features of the image are so suggestive that its culture origin is well-nigh proved by them. If the specimen came from the mainland — a source of origin open to doubt — that fact would point to a cul-

¹ *Twenty-fifth Annual Report of the Bureau of American Ethnology.*

² Judging from data at hand, it is not definitely proved that this specimen belonged to the Poinsett collection, to which it is sometimes ascribed.



FRONT, PROFILE, AND REAR VIEWS OF ANTILLEAN STATUETTE

tural connection between the West Indies and the Spanish mainland. It cannot seriously be maintained that the figure is a fabrication, as it was brought to the United States many years ago, before fraudulent productions had become so numerous. Evidently the maker of the original object was familiar with typical Antillean and Carib art, and must have seen similar objects in order to be able to combine in one specimen so many prehistoric West Indian features. No similar figure was known in scientific centers when the original or the cast was made. None of the several Mexicanists — Seler, Holmes, Saville, and others — to whom the author has shown the statuette or photographs of it, claims the figure as Mexican, and there is complete unanimity of belief that it is closely related in technic to images from the West Indies. The author believes this object is a true product of that culture which reached its highest development in prehistoric Porto Rico and Santo Domingo.

The illustrations that accompany this paper were made from photographs by Mr DeLancey Gill of the cast in the Smithsonian Institution; they reproduce the original (No. 12017) in the museum of the Academy of Natural Sciences in Philadelphia.¹

Description of the Figure. — The image (plate xviii), which is represented in a kneeling posture, resting on the knees and toes, — a posture unusual among known West Indian images, — is made of stone² and measures 13 $\frac{1}{4}$ inches in height.

The prominent shoulder-blades rise from the back of the head, the neck being undistinguishable from the body. The most marked feature of the idol is a disk, called the "canopy," raised slightly above the head; this is circular in form and measures three-fourths of an inch in thickness. Below the pedestal, on which the canopy is mounted, is a hood-like covering of the head, to which the shoulders and ears are attached and out of which the face seems to peer. It has been suggested that this hood represents a helmet or cap. Other characteristic features of the head are: face oval in shape; eyebrows prominent; nose large, with broad nostrils; mouth open, without representations of teeth; chin small; ears large,

¹ The author takes this occasion to express his appreciation of the Academy's permission to publish this account.

² The most closely allied figures yet described are made of wood.

having their lower portions dilated with characteristic circular ornaments similar to those of other West Indian idols whether of the human or of the three-pointed form.

The arms are round and are not carved in relief on the sides of the body, but are free except at the points of attachment, the idols differing in these respects from most examples of primitive art, although sharing these peculiar features with Antillean idols made of wood, as exemplified in the Imbert specimen elsewhere described and figured. The arms may be described further as small and straight, with the hands resting on the thighs. On each upper arm are two knobs, one at the elbows and the other midway between the elbow and the shoulder. Similar enlargements are found on the arms of the wooden images in the Imbert collection, and in other specimens on the thighs or legs; these represent the bands which, according to older writers, the Antilleans (Carib) wore about the limbs to increase their size.

The backbone is a serrated ridge, suggesting that observable in other Antillean figures.

The buttocks appear slightly in relief and are rounded, one having a small dimple or depression as if a joint, suggesting the pits found in certain three-pointed stones and other zemis.¹

The pose of the idol is such that the soles of the feet are turned backward, but the toes are bent in on the soles instead of being extended naturally. This feature is common in certain bone and shell carvings of Antillean fetishes, as those in the Archbishop Meriño collection. Small superficial enlargements, or pimples, indicate the extremity of one of the leg bones, as the fibula.

Lest mention of these insignificant features may appear trivial, or at least not characteristic of Antillean art, attention is directed to the persistency of the same characteristics in several figures illustrated in the author's memoir before cited.²

It would appear that a feature so common in Antillean idols

¹ See *Aborigines of Porto Rico*, op. cit., pl. XXXVII, a; XXXIX, c; XLI, b; XLIII, a, c; LXXVI, a.

² In *Twenty-fifth Annual Report, Bureau of American Ethnology*. See wooden statuette, pl. XC, c; carved figure at end of rib, pl. LXXXVII, d; in wooden stool or *dubo*, pl. XCIII, a; in clay effigy vase, pl. LXXXII, a; and in cloth zemi, fig. 214, it is found in both ankles.

of human form, viz., the enlargement representing the end of the fibula, reproduced in the object here dealt with, when combined with other similarities has some meaning. It may be said that this feature represents merely the extremity of one of the leg bones, but why, it may be asked, is it so constantly shown?

The abdominal and thoracic regions are represented as much reduced in size by the situation of the backbone, which appears drawn out of place by being attached to the back of the head. The navel is not shown, but the sexual organs are prominent as in all Antillean idols representing males.

There are several stone images of kneeling figures destitute of the *tabla*, or head canopy, with which this image has much in common. With respect to the position of the knees, the image on the end of a prehistoric Haitian pestle¹ is one of the closest approximations, notwithstanding the presence of the "lens" and its shaft attached to the back of the image changes somewhat the general appearance. A detailed examination of the figure which forms the subject of this paper convinces the author that its technic is purely Antillean and that, irrespective of the locality whence it came, the characteristics of West Indian art are strongly impressed on it. Although there are several published figures of idols from Santo Domingo with which the image under consideration might be confounded, the most striking are those shown on plate xc, c, c', c'', in the author's memoir on the "Aborigines of Porto Rico."

Perhaps the strongest points of likeness between this problematical figure and images undoubtedly brought from the Antilles are (1) the presence of a canopy on the head; (2) the carving of the face; (3) the form of the ears and their appendages; (4) the enlargements on the arms; (5) the character of the backbone. Of these resemblances the most characteristic perhaps is the canopy on the head, which is an almost constant feature of the Antillean idols made of wood. As first suggested by Mr T. A. Joyce,² this canopy may be a table (*tabla* of Herrera) on which were placed offerings for the idol beneath it. This place for offerings assumes somewhat

¹ Op. cit., pl. xxiv, a.

² Prehistoric Antiquities from the Antilles in the British Museum, *Jour. Roy. Anthropol. Inst.*, xxxvii, 403-404.

different shapes in known wooden idols. It may have the form of a disk attached to the top of the head or of a flat circular plate mounted on a pedestal rising from a common base with the image. A special pedestal of this kind may be seen in a wooden image in the British Museum, illustrated by Mr Joyce, and another in the author's "Aborigines of Porto Rico" (plate xci, a, a').

In his account of the aborigines of Haiti, the great Admiral says :

"But also in all the other islands and on the mainland [Cuba?] each has a house apart from the village in which there is nothing except some wooden images carved in relief which are called *Cemis*, nor is there anything done in such a house for any other object or service except for these *Cemis*, by means of a kind of ceremony and prayer which they go to make in it as we go to churches. In this house they have a finely-wrought table, round like a wooden disk, in which is some powder which is placed by them on the heads of these *Cemis* in performing a certain ceremony: then with a cane that has two branches which they place in their nostrils they snuff up this dust. The words that they say none of our people understand."

Regarding this table Herrera¹ says :

"Within the temple they have a well-made table (*tabla*), round in form, on which are placed certain powders with which they sprinkle the heads of the images with definite ceremonies, and with a cane of two branches which they place in their nostrils, they snuff up this powder; the words they say no Spaniard understands."

Of several other accounts of this table which might be mentioned, that of Davies² is instructive. He thus speaks of it as used among the Carib :

"It is requisite above all things that the home or hut into which the Boye is to enter should be very neatly prepared for his reception, that the little table which they call *matouton* should be furnished with anakri for Maboya—that is an offering of cassava and onicon for the Evil Spirit—as also with the first fruits of their gardens if it be the season of fruits."

The cassava mentioned is of course a symbolic food offering and

¹ Dec. 1, lib. III, esp. III, p. 67, Madrid, 1730. The statement is evidently taken from Columbus's account. Several other references to this *tabla* and its use in making offerings might be quoted.

² *History of the Caribby Islands*, London, 1666.

the onicon a drink, these representing the two great desires which underlie the material life and stimulate primitive men to perform rites and ceremonies.

If the "canopy" on which offerings to the idol were formerly placed be interpreted as synonymous with the *tabla* above referred to, the question naturally arises whether the image below it represents the god to which the offerings were made or an ornamental support for the table. We know the care which the Antilleans bestowed on ornamentation of their pestles, seats (*duhos*), and utensils. Pottery heads, once attached to bowls as handles, — a most common type of clay objects from Porto Rico and Santo Domingo, — are often called *zemis*, but there is every reason to doubt that these objects were ever used as idols. These clay heads are regarded as ornamental, possibly grotesque, symbols of gods, but it is hardly probable that they served as idols. It may readily be believed that the *tabla*, on which we are told offerings were placed, might have had bases elaborately ornamental, possibly standing before the idol itself. The preponderance of evidence as to the identification of the image as an ornate support, a table, or an idol, seems to the author to justify the belief that the figure is an idol.

While it was supposedly on this table that the food offerings were laid in connection with Haitian prayers and other rites, it is probable also that when *cohiba* was performed tobacco or some herb used as snuff likewise was placed on it and inhaled into the nostrils through a bifurcated tube. This form of ceremonial prayer is mentioned or described by several early authors.

Possibility of Identification. — As yet it is not possible to identify the image with which this paper especially deals, or any of the large stone or wooden idols known from the West Indies with those mentioned by Roman Pane or other early writers on Antillean idolatry; but it may not be too much to hope that, as other specimens of various forms are described, some definite clue leading to their identification may be brought to light. In all attempts at identification made thus far difficulty has arisen from confusion of the mythology and the ritual of the agricultural Indians of the Antilles with those of the nomadic Carib. The names and charac-

ters of certain Carib gods have been transferred to the Tainans, and vice versa. Thus while the Carib gods Maboya and Hurican may have Haitian equivalents, these names do not appear in Roman Pane, Peter Martyr, Benzoni, Las Casas, or Gomara. No less confusion has resulted from the exaltation of those gods that confer material benefits and those that deny or destroy them, into ethical gods, or those of good and evil, a step lacking justification in view of the low religious condition of these people.

Fundamental Religious Ideas of the Antilleans. — In a general way the Antilleans, like all primitive peoples, recognized the existence of a power inherent in all things, and, in order to influence that power so far as they needed its aid, they personated it in symbols. Being agriculturists, the most powerful gods to them were naturally those earth deities and sky deities that watered their fields and made their crops grow. Every cacique relied on supernatural beings called *zemis*. To all the powers thus symbolized offerings for abundant crops were made with ceremony.

The Haitian account of the origin of the human race from a cave, or an underworld, is a variant of a legend universal on the American continent of the birth of man from mother earth. This place of origin was the cave, or womb, of the mother of all life, Atabei, whose son was the great god Yucayu, the beneficent one, who caused the national food plant to increase.

As set forth in the following quotation from Pane, taken from the variant in Churchill's *Voyages*, the image under consideration hardly answers the reference to his description of these two *zemis*.

"They say further that the sun and moon came out of a grotto, that is in the country of a cacique whose name is Mancía Tiuvél, and the grotto is called Giovovava: and they pay a great veneration to it, and have painted it all after their fashion without any figure but leaves and the like. In the said grotto there are two little stone *cemies* about a quarter of a yard long, their hands bound and they looked as if they sweated. These *cemies* they honour'd very much and when they wanted rain they say they used to go visit them and they presently had it. One of the *cemies* is by them called Boínaiel, the other Maroio."

Peter Martyr speaks of the same thus :

"There is a certayne caue called founanaboína in the terrítorie of a

certayne king whose name is Machinuech In the entrance of this caue they have two grauen Zemes whereof the one is called Bintahitel and the other Morahu."

The main food supply of the natives of Haiti and Porto Rico before the arrival of the Spaniards was cassava, a product of the yuca root. The being who caused this to grow was naturally the great god of benefits, called by various names which Coll y Toste has cleverly reduced to Yucaya, and which may be called the Yuca god. He was probably represented by one of the two images to which Benzoni refers when he says, "They worshiped two wooden figures as the god of abundance." It is also possible that they were the two beings mentioned by Gomara as follows: "They had two statues made of wood, one called Morobo the other Bintahitel, which, according to Pane, were worshiped when they wished rain. Pane says, however, they were made of stone; he calls them Maroig and Boirnaïl, names which Peter Martyr has metamorphosed into Morahu and Bintahitel. According to the several authors, these statues were in the Cave of the Sun and Moon, and we are not sure that one represented the Sun god, the other the moon or earth.

According to Peter Martyr —

"Some [zemis] they make of rootes to the similitude of such as appear to them when they are gathering the rootes called Ages whereof they make their bread as we have said before. These zemis they beleue to send plentie and fruitfulness of those rootes."

Sr Coll y Toste¹ has pointed out that the great god of the Haitians, Yucayu, called by various names in different accounts, — Iocauna, Guamonocos, Jockakuvague, Maorocon, — was a Yuca god, the beneficent being who gave and increased the natural food plant of the Antilleans. It is probable that offerings were made to him as well as to the Earth Mother for abundance, and their idols may be two wooden idols of abundance mentioned by Benzoni.

The zemis to caciques were messengers of the great gods or agents which did their bidding, and which were worshiped for plentiful crops.²

¹ *Prehistoria de Puerto Rico*, pp 115-116.

² "For divers of the inhabitants honour zemis of diuers fashions: some make them of wood, as they were admonished by certain visions appearing unto them in the woods."

While the author accepts Sr Coll y Toste's identification of Yucayu as the great Yuca god, he believes the well-known Porto Rican historian had gone beyond what is recorded in ancient accounts of the religion of the Antilleans when he writes: "Los zemis ó dioses tutelares, unas irradiaciones del gran Yucaju convertido en Yukiyu el dios protector de Boriquen." The author has not seen the authority for the statements by the same author —

"Llamaban Maboyas á los fantasmas nocturnos, que creían ellos rondaban por sus sementeras, atribuyendoles pequeños, daños ocurridos en sus labranzas, los perjuicios en sus casas y las enfermedades de sus hijos y mujeres. Los Maboyas eran irradiaciones de Jurakan."

In early writings zemis are nowhere found designated *irradiaciones*, although they are repeatedly called "messengers," and were in fact subordinates of the great gods, being possessed like them of magic power to make the yuca grow, to facilitate childbirth, and to cure the sick. The distinction above made between *maboyas* as "irradiations" of Jurakan and zemis as "irradiations" of Yucayu does not occur in the old writings nor does it have the support of comparative studies.¹

Supernatural Beings Propitiated. — There were certain nature gods to which offerings must be made to prevent floods and tempests from destroying the crops. Among these were Guabancex and her two messengers, Guavava and Coatriscbe. These are supposed to represent the god Hurican of the Carib or the Maboya with which they decorated the prows of their canoes.

The Haitian zemi Guabancex, briefly mentioned by Roman Pane, corresponds in most particulars with the Carib Hurican.² Her two attendants had power over tempests and floods. The accounts we have of her worship show that offerings were made to her idol to appease the latter's wrath, in order to avert tempests rather than to bring rain. There is only a remote likeness between the two "little stone zemis" of the Grotto of the Sun and the two images of the attendants of Guabancex, one of which was appealed to to bring rain, the other to prevent floods. In this respect the one was good, the other evil, but not in an ethical or a moral sense.

¹ *Opia* is a name given by Pane for spirits that wander about by night.

² The Carib god Iuracan (Huracan) is not mentioned by that name by either Roman Pane or Peter Martyr.

Of this female zemi Roman Pane writes:

"Guabancex was in the country of the great cacique whose name was Aumatex; and they say, it is a woman cemi, and has two others with it: one a crier the other gatherer or governor of the waters. When Guabancex is angry, they say, it raises the winds and waters, overthrows houses and shakes the trees. This cemi they say is a female and made of stones of that country. The other two cemís that are with it are call'd one of them Guatavva, and is a crier that by order of Guabancex makes proclamation for all other cemís of that province to help to raise a high wind and cause much rain. The other is Coatrísche¹ who they say gathers the waters in the vallies among the mountains and then lets them loose to destroy the country."

Peter Martyr says:

"They honoured another Zemes in the likeness of a woman, on whom waited two others like men, as they were ministers to her. One of these executed the office of a mediatour to the other Zemes which are under the power and commandement of this woman to raise wyndes, cloudes and rayne. The other is also at her commandment a messenger to the other Zemes which are ioyned with her in governance to gather together the waters which fall from the high hills to the vallies that beeing loosed they may with force burst out into great floodes and overflowe the country if the people do not give due honour to her image."

It is evident that this zemi in the likeness of a woman was the one called Guabancex by Roman Pane.

In his account of the rites of the Carib it is distinctly stated by Davies that offerings were made to Maboya by the medicine-men before they began to treat their patients. It seems logical to infer that, if we can find an equivalent to Maboya in Haitian mythology, much the same offerings would be made to her as to the Carib deities. Guabancex may be the equivalent. Not less widely spread than the ceremonies to bring rain and increase the growth of crops or avert their destruction were the rites by which the medicine-men treated the sick. The nature of these ceremonies is known from contemporary writings describing the Carib and the Tainans. The god to which offerings were made by the Haitian *booi* before they began their treatment and the god to whom they first sacrificed are not

¹ Attention is directed to *coa* and *boa*, serpent.

known, or at least are not mentioned by Roman Pane, Peter Martyr, or Benzoni. The *zemis* which were supposed to aid the *boii* in the role of physicians had the form of serpents. They assisted the *boii* when the latter had been mutilated by enraged patients or their relatives. There is good evidence from Davies that the *boii* among the Carib practised a serpent cult when they treated the sick. Their patron was Maboya,¹ on whose *tabla* or ceremonial table they placed offerings of cassava and *onicon* (a ceremonial drink), apparently invoking his aid before beginning their work.

Conclusion.—The technic of the statuette here considered is characteristic of the culture called Antillean, or Tainan, and the treatment of the subject is practically identical with that exhibited in the case of wooden figures from a cave in the island of Santo Domingo. These facts seem to indicate that, although we are ignorant of the locality from which the idol came, there is strong evidence that it was derived from either Haiti or Porto Rico. If it originated on the mainland, the fact adds great weight to the suspicions of several authors that Antillean culture made itself felt on the eastern coasts of Mexico and Central America.

The symbolism of the statuette is not pronounced enough to enable its identification with any of the supernatural beings described by early authors.

BUREAU OF AMERICAN ETHNOLOGY
WASHINGTON, D. C.

¹ The good god of the Carib was called *Ichairicon*, the bad god, Maboya, but neither of these is mentioned by name in Haiti or Porto Rico. The god who sends sickness, according to Pane, was called *Beidrama*.

NEW EVIDENCE OF THE DISTRIBUTION OF CHIPPED ARTIFACTS AND INTERIOR CULTURE IN BRITISH COLUMBIA

By HARLAN I. SMITH

TWO chipped leaf-shaped points of a hard dark stone¹ found by the writer's party in the shell-heap at Comox, near the middle of the eastern coast of Vancouver island, have marked the northern limit of the occurrence of chipped stone work on the coast of British Columbia. But now there may be seen in the collection of Mr B. Filip Jacobsen, of Bellacoola, two large chipped leaf-shaped points which were found on the coast at that place. Their outlines are shown in figure 73, *a, b*.

These objects are wrought from a stone resembling the "glassy basalt" so much used for chipped objects in the interior of southern British Columbia, but have slightly more of the appearance of slate, and tend to be gray rather than black.

I am informed by Mr Jacobsen, who purchased them, that they were found by Mr Frithof Gustavson, now of New Westminster, British Columbia, among wood ashes and charcoal twenty feet deep in a bed of sand and gravel. Mr Jacobsen pointed out the place on the northern side of the road at the base of the mountains where they meet the northern side of the bottomland of Bellacoola river, about three miles above its mouth and perhaps a mile below the bridge. The gravel was clean, as if from a slide. It had caved down somewhat since the find was made.

Mr Jacobsen states that two strata overlay the specimens, the lower one composed of boulders about the size of one's head. Fir trees at least two hundred (Mr Jacobsen thinks four hundred) years old furnish a network of roots above the gravel in which the chipped objects were found.

The vicinity shows many glaciers and slides on the mountain

¹See Smith, *Archæology of the Gulf of Georgia and Puget Sound*, *Mem. Am. Mus. Nat. Hist.*, 1907, vol. IV, part VI, fig. 102.

sides, and many changes in the gravel and the river channels in the bottomland and delta, but these phenomena do not oppose the belief that the gravel-bed is not of great geological antiquity.



FIG. 73.—Chipped points from Bellacoola delta, British Columbia. (a, 11½ inches long; b, about 8 inches long.)

In Mr Jacobsen's collection is also an elbow pipe made of steatite, (fig. 74); there is a hole broken in the bowl, which was made by gouging. Mr Jacobsen states that he found it about three feet deep in an old but historic Bellacoola village site on the bottomland of the southern bank of the river, immediately below the bridge.

There is nothing about the pipe indicative of great antiquity, and it probably belongs to the period of the occupancy of the village, that is, within the memory of Indians now living. Remains of an old wooden fish-trap may still be seen at low water on the opposite or northern bank of the river.

Steatite pipes have been found in the lower Fraser valley¹ and at North Saanich,² but these are of the tubular form. Elbow pipes³ and also chipped implements are common in the interior of southern British Columbia, whence the specimens above referred to probably came by trade during comparatively modern times.

In this connection it should be borne in mind that in British Columbia the great body of Salish people live in the interior, while the Bellacoola group, being small and having adopted quite completely the material culture of the Wakashan on either side of them, have no doubt crowded down the river which bears their name, divided the Wakashan, and taken up their abode on the coast in com-

¹ See Smith, *Shell-heaps of the Lower Fraser*, *Mem. Am. Mus. Nat. Hist.*, vol. IV, part IV, figs. 48, 55a.

² See Smith, *Archæology*, etc., op. cit., fig. 139; also *American Anthropologist*, N. S., 1906, VIII, fig. 7.

³ See Teit, *The Thompson Indians*, *Mem. Am. Mus. Nat. Hist.*, vol. II, part IV, figs. 271, 306, 309.

paratively recent times, bringing with them, besides their language, some traces of the interior culture.

In the Bellacoola delta one sees many horses, so rare on other parts of the coast, besides hunters and other evidences of the white man's trail from the interior, thus indicating that relations with the interior are easily established here.

Here too may be seen "Stick Indians" from the interior, entirely different from the Bellacoola in language, physique, and culture, and wearing moccasins and other articles of apparel which even at a glance distinguish them from the coast peoples.

These considerations lead to the belief that the chipped points and the pipe above referred to were brought to the coast from the interior, probably by trade or gift, within the last few hundred years.

AMERICAN MUSEUM OF NATURAL HISTORY
NEW YORK

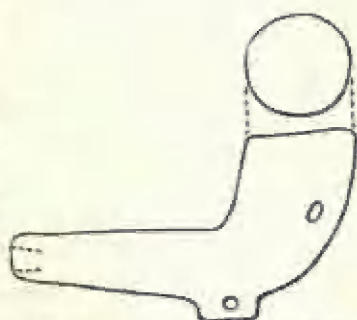


FIG. 74.—Steatite pipe from Bellacoola, British Columbia. (About $\frac{3}{8}$.)

TATTOOING OF THE NORTH AMERICAN INDIANS

By A. T. SINCLAIR

WHEN the Spaniards landed in the West Indian islands, they gazed with astonishment and horror on the "fantastic, diabolical images" of demons (*zemis*) tattooed on the naked bodies of the natives. And early Spanish historians speak of it as a common practice all over Spanish America.

The first volume of the *Jesuit Relations*, which is a résumé of the annual reports for a hundred years, intimates that tattooing was a well-known custom in the whole of New France. In the remaining parts of North America the earliest explorers everywhere reported tattooing.

How general and extensive in amount it was in the different sections it is often impossible to determine from the meager evidence handed down to us, but a careful study of what we have may perhaps clear up some doubts and obscurities.

WEST INDIES. — Oviedo was the first and perhaps the best of the early Spanish historians about Spanish America. He tells us¹ that the natives in Haiti and also on the mainland "imprinted on their bodies the images of their demons (*çemi*),—held and perpetuated in a black color for so long as they live, piercing the flesh and the skin, and fixing in it the cursed figure,—and they do not fail to make it. Thus it is as a seal stamped upon them."

On page 204 he writes :

"In the Isla Española [Haiti] and some parts of the mainland are pines . . . And in Nicaragua among the Chondales are pine forests. One of the trades they carry on is to make from the pitch-wood of these pines a soot, and from this make a powder. They enclose this powder in

¹ *Historia General y Natural de las Indias*, por el Capitan Gonzalo Fernandez de Oviedo y Valdés, Primer Cronista del Nuevo Mundo ; Madrid, 1851. The preface (p. v) states these four works most interested the Academy : (1) Oviedo, the most ; (2) Las Casas ; (3) Sahagun ; (4) Obispo de Chiapa. Oviedo was five or six times in America as procurador in Darien, Panama, and Nicaragua, and governor of Santo Domingo, etc. First published in 1534. He was born 1478. Lib. v, chap. 1, p. 126.

leaves, making a lump a palm and a half long and as thick as the wrist. The quantity of powder fixes the prices. They take it to the markets and barter it for other goods. It is their money. It is used to mark Indians as slaves, and devices their masters desire, and also for tattooing others for ornament [they call it *tilé*]. The manner of using it is cutting with razors of flint the face or arm lightly, which they wish to mark, as between the skin and flesh, and powder the cut with this soot (*humo*) when the cut is fresh, and soon it is well, and the drawing (*pintura*) black and very pretty, and the drawing is perpetual for the days which one lives, just as it is branded (*herrado*)."

Further details are also given.

Oviedo in several places speaks of Nicaragua, Venezuela, and the mainland generally, and asserts that tattooing was practised everywhere in Spanish America; and on page 498, as to Cuba, "that the stature, color, idolatries, etc., are all the same as in Haiti." He was well acquainted with Jamaica and other islands. Whether from such general statements it can safely be inferred that tattooing prevailed in all parts of New Spain may perhaps be a question, unless it is confirmed by other authors.

Herrera¹ describes (p. 676) that in Colombia and Ecuador, among certain tribes, the men and women tattooed (*se gravent*) the face and arms, like the Moors; they also painted their bodies.

On page 320 he speaks of men in Nicaragua who spin all naked, their arms tattooed (the word probably means here tattoo). With these exceptions Herrera writes nothing about tattooing in Nicaragua or elsewhere. He frequently refers to body paint and blackening the teeth. Tattooing, we know from other authors, was general in Nicaragua and elsewhere in Central America. This illustrates the fact that it is not safe to infer tattooing does not exist in a country because a careful writer omits to mention it.

Charlevoix² (p. 54) writes:

¹ *Histoire Générale des Voyages et Conquestes des Castillans dans les Isles et Terre-ferme des Indes Occidentales*, traduite de l'Espagnol d'Antoine D'Herrera, etc., par N. de la Coste; Paris, 1671. The accounts are 1521-1526.

² *Histoire de l'île Espagnole ou de S. Domingue* [from MSS. of P. Jean-Baptiste le Pers, Jesuit missionary to Santo Domingo], par P. Pierre-François-Xavier de Charlevoix; Paris, 1730. Father le Pers was twenty-five years a missionary and sent nine memoirs.

"They called their idols *Chemis*, or *Zemès*, and they imprinted their image on their own bodies (*ils s'en imprimoient l'image sur le corps*). So it is not astonishing if, having them without ceasing before their eyes and fearing them much, they saw them often in dreams. . . . They were all hideous—as toads, tortoises, snakes, alligators," etc.

On page 86: "All were tatttoood (*peints*) in a manner very variegated, some only on the face, or around the eyes, and on the nose, others all over the body." This refers to the island San Salvador when Columbus first landed. Irving translates *peints*, "painted or tattooed." All other accounts of body ornament in the West Indies seem to indicate only tattooing, so far as noticed. This fact and the whole tenor of the description and the context rather suggest tattoo than paint here. *Peints* is the Spanish *pintado*, one of the commonest words for tattooed. These natives, even if painted, were also tattooed, as appears elsewhere.

There is now considerable tattooing among the lower classes, and particularly sailors, in many of the West Indies. The *Nañigo*, a cut-throat secret society of Cuba, all had a certain tattoo device on the biceps of their arms.

MEXICO AND CENTRAL AMERICA.—In De Landa's work¹ a heading (page 120, § xxii) reads: "Como estos indios se labravan el cuerpo," and the translation "Tatouage de Yucatèques." On the same page we find:

"They tattooed their bodies (*labravanse los cuerpos*), and the more they were tattooed the more valiant and brave they were considered, because the operation of tattooing was very painful, and was done in this manner: The officials worked the parts they desired with ink (*tinta*), and then incised gently the drawings, so that the devices remained in the body with the blood and ink. They tattoo only a little at a time, because the pain is great. They also become ill, for there is inflammation, and matter gathers in the tattooing. In spite of all this, they scoff at those who do not have themselves tattooed."

On page 15 "la Maya" is stated to be the whole of Yucatan, and that a Spaniard, Guerrero, captured by the Maya, learned their language, married a woman of high rank, etc.

¹ *Relation des choses de Yucatan de Diego de Landa*, par l'Abbé Brasseur de Bourbourg; Paris, 1864. (Spanish with French translation.)

"He covered his body with tattooing (*Il se couvrit le corps de peinture [labrava su cuerpo makes certain it is tattooing]*), let his hair grow, pierced his ears [etc.], . . . so he would not attempt to leave them" (p. 17).

Professor Selser, in reply to a letter of inquiry, confirms this view. He writes, June 19, 1909:

"There is some information in Spanish literature on the use of tattooing in Central America. Sahagun describes distinctly and accurately the manner of tattooing of the Ohuni tribe. We have, too, in our collection, clay figures that clearly show marks of tattooing on the body and on the face. I have such figures in my Huastecan collection. Others are seen in our collection of Campeche figures. You know, I suppose, the account Fernando de Aguilar gave of his comrade in captivity who preferred to stay with the Indians not the least on account of his facial tattooing and nose and ear piercings."

Aguilar was a fellow captive with Guerrero, but escaped.

De Landa (p. 179) intimates perhaps that all married women were tattooed. "The *femmes publiques* painted themselves black until married. There were a few who tattooed themselves before."

Las Casas¹ states (vol. 1, p. 31) that the Spaniards marked (*marqué*) as slaves those they spared on the mainland. He speaks of the immense numbers of natives killed in Nicaragua, and (p. 53) says that in Mexico they marked 4500 as slaves. This was undoubtedly the kind of tattooing referred to by De Landa in Nicaragua, where slaves were tattooed with such marks as their masters desired.

Sahagun² (vol. 1, p. 73) tells us that the persons to be sacrificed were painted (*pintaban*) with different colors, etc., and (p. 135) "they put on the face of a woman victim two colors from the nose down, yellow and reddish." This probably was paint simply, not tattooing.

Dr Baca in a recent important work on "Tattooing" in Mexico³ (p. 41) quotes from Orozco y Berra (II, p. 170) as to the women of ancient Mexico as follows: "They tattooed the breast and arms

¹ *Oeuvres de Don Barthélemi de Las Casas, Evêque de Chiapa*, par J. A. Llorente; Paris, 1822.

² *Historia General de las Cosas de Nueva España*; Mexico, 1829.

³ *Los Tatuajes*, por el Dr Francisco Martínez Baca; México, 1899; large 8°, 299 pp., drawings, etc.

with blue needle-work, making it permanent, by pricking the flesh with lancets " (*Se pintaban pecho y brazos de labores azules, haciéndolas permanentes punzando las carnes con lancetas*). Elaborate body painting was general everywhere in New Spain, and staining the teeth a permanent black certainly was very common.

The Opata (p. 44) in Sonora had this custom. Mothers tattooed newly born children around the eyelids with many black spots which formed arches, which they considered marks of beauty. The tattooing was increased as the child grew older, and was not confined to the face but was extended also to the body. The warriors of this tribe bore long, wavy scars; so among the Guachichiles, who occupied what is now Zacatecas and Coahuila.

The ancient Maya scarified the body to beautify. Experts, after painting the desired figures on the skin, cut it and introduced into the wounds a black earth or powdered charcoal, which made the devices indelible forever. When healed, different figures appeared, as of animals, serpents, and eagles and other birds, ornamented with various fine work.¹

When warriors departed to seek the enemy, they painted their bodies with war paint of different colors. On their return they substituted for this paint the indelible tattooing. This privilege was confined to warriors and nobles. The people of the town were not permitted to be tattooed.²

Cogulludo tells us that the ancient Mexicans engraved on their bodies all kinds of drawings and figures of animals, as eagles, tigers, and serpents, according to the order. The young warrior began with one or two symbolic figures. With each new victim he received a new device, so that the bodies of old heroes were entirely covered with hieroglyphics.

The women did not tattoo the face, but did the body to the waist (pp. 45, 46).

Dr Baca also relates (p. 38) that the Galibis are the present representatives of the Caribes, who were the ancient inhabitants of Venezuela, Colombia, the Guianas, and the Lesser Antilles; and that the Galibis still tattoo the feet, half the legs, the forearms, and

¹ Baca, *Los Tatuajes*, p. 45.

² *Idem.*, p. 45.

other parts of the body, and also retain some other very peculiar customs of their ancestors.

Bancroft¹ writes that the men in ancient Oaxaca and Yucatan tattooed on the chest; that (p. 691) tattooing seems to have been practised in Nicaragua; tattooing (p. 716) by cauterization was in use on the Mosquito coast, as seen by Columbus (Colombo, *Hist. del Ammiraglio*, 1709, pp. 403-05), and it is still practised in the interior. Slaves were painted or tattooed only from the mouth upward (p. 753). The natives of Escoria tattooed breast and arms, and (p. 771) slaves were branded or tattooed, with the particular mark of the owner, on the face or hand.

Slaves would naturally be marked in a permanent manner, and not simply painted.

Wuttke remarks (p. 94) that among the ancient inhabitants of Yucatan tattooing was in "full swing"; that it was common in Darien, and (p. 109) that "the Mexicans tattooed their children in their earliest years."

Commander T. O. Selfridge, U. S. N., in his Report of Surveys (1870-73), states that the San Blas or Darien Indians are practically the only inhabitants of the Isthmus of Darien and that all their women tattoo across the bridge of the nose and paint their cheekbones red.

The civilized people of the lower classes in Mexico today are, in some districts at least, often tattooed.

Many Mexicans have informed me that the wild Indians in Yucatan and Central America still continue that practice. So in Central America, and on and below the Isthmus of Panama, it is often said the wild tribes still tattoo, and extensively. Several persons who have lived on the Isthmus for two years or more have insisted to me they had seen several camps of such tattooed savage natives. These persons were themselves tattooed, and much interested in the subject. They were unacquainted with each other and ignorant of what each had told me. It appears from the investigations kindly made for me by order of Colonel Goethals, that the Indians with whom the whites generally come in contact have

¹ *Native Races of the Pacific States of North America*, by Hubert Howe Bancroft; New York, 1874, vol. 1, p. 651.

given up the practice. Wherever the missionary influence is felt, certainly it has disappeared. Body painting however, still is seen.

From these authorities it seems clear that tattooing was a general practice in Haiti, and some if not all of the West Indies. It was part of their religion. No one failed to imprint his *zemis* on his body. In Yucatan, Nicaragua, and Mexico, certain devices were marks of distinction, but slaves were tattooed, and the fact that *tile* (lumps of soot, tattoo-ink) were made and used in large quantities indicates the extent of the practice. Children were punctured. The custom persists among the representatives of Venezuela, Colombia, and the Antilles today, and among the Indians of north-western Mexico. There is considerable tattooing now among the lower classes in parts of Mexico.

FRENCH AMERICA. — Volume I of the *Jesuit Relations*¹ is "Concerning the Country and Manners of the Canadians or Savages of New France," by Joseph Jouvençy, S. J. (Paris, 1710). All the Jesuit missionaries forwarded to Paris every year a full and detailed account of their work and district. Father Jouvençy compiled this account from these memoirs sent from 1610 to 1710. It was a general history drawn from these detailed accounts. His remarks on tattooing seem to apply to the entire wide extent of country about which he treats. The names of a large number of tribes are given in Nova Scotia, New Brunswick, Maine, Cape Breton, on both sides of the St. Lawrence, and the Great Lakes, to and beyond the Mississippi, and down that river to the Gulf, northward to Hudson bay, New York, and to the Ohio river. The Hurons, the Tobacco Nation, the Neuter Nation, Iroquois, Ottawa, Chippewa, Beavers, Cree, Menomini, Potawatomi, Sauk, Foxes, Winnebago, Miami, Illinois, Sioux, French Louisiana Indians, Abenaki, Penobscot, Micmac, Kennebec, Montagnais, and many others are described as to territory, habits, customs, etc. The Jesuit missions were scattered through this entire territory, and these missionaries traveled extensively, were intelligent, energetic, educated, observing men. Father Jouvençy's conclusion plainly was that tattooing was a common practice among all the tribes there, and universal among some tribes.

¹ *The Jesuit Relations*, edited by Reuben Gold Thwaites; Cleveland, The Burrows Brothers Co., 1896.

Body-painting was general everywhere. In Nova Scotia the noses often were painted blue.

On page 279 Father Jouvency states :

" Besides these colors, which are usually applied or removed according to the pleasure of each person, many impress upon the skin fixed and permanent representations of birds or animals, such as a snake, an eagle, or a toad, in the following manner : With awls, spear-points, or thorns they so puncture the neck, breast, or cheeks, as to trace rude outlines of those objects ; next they insert into the pierced and bleeding skin a black powder made from pulverized charcoal, which unites with the blood, and so fixes upon the living flesh the pictures which have been drawn, that no length of time can efface them. The whole of some tribes — especially that which is called the Tobacco nation, and also another called the Neutral nation — practise it as an immutable custom and obligation (*id constante more ac lege usurpat*). Sometimes it is not without danger, especially if the season be somewhat cold, or the physical constitution rather weak. For then overcome by suffering, although they do not betray it even by a groan, they swoon away, and sometimes drop dead."

Sagard¹ states (vol. i, p. 133) :

" Some have the body and face tattooed (*gravée*) with figures of serpents, lizards, squirrels, and other animals, and especially the Petun tribe, who nearly all have the bodies so covered with devices. . . . These are pricked into the surface of the flesh in the same manner as the crosses which those have on the arm who return from Jerusalem, and it is forever. These puncturings are done at different times, as they cause great pain, and often make them ill, and they have fever, and lose appetite. Still they persist until the designs are completed, showing no outward appearance of the pain. Some women, though but few, submit to the operation."

In his History of Canada² Sagard thus describes the process :

" They take a bone of bird or fish, which they sharpen like a razor, with which they engrave, and figure the body, but at different intervals, just as one here makes a coat of arms with a graver. They rub the incisions thoroughly with a black powder, and the figures remain forever, and they cannot be effaced, any more than the *marks* which the pilgrims

¹ *Le Grand Voyage du Pays des Hurons*, par F. Gabriel Sagard Theodat ; Paris, 1865. The original edition was 1632.

² *Histoire du Canada*, par Gabriel Sagard Theodat ; New ed., Paris, 1866, vol. II, p. 347.

who return from Jerusalem have on their arms. . . . Some women and girls submit to these incisions to show they are *belles* and *brave*."

Body-painting of both sexes was a general practice. Sagard describes the Hurons, Montagnais, Iroquois, Souriquois, Algonkin, and other tribes, and apparently refers to these and all the Indians in New France to Lake Michigan.

Potherie¹ describes a picked body of two hundred athletic young men, from the *Pistons* (walkers) and belonging to the Miami, Maskoutens, Kickapoo, and Illinois. These had the whole body pricked with black, in tracings of many sorts of figures; and devices of arrows, tomahawks, belts, and garters, in a knitting-work design. The grand chief of the Miami came first, at the head of 3000 men, belonging to many different tribes—Sauk, Foxes, Sioux, etc. (p. 106). It would seem that these braves were selected from all these tribes, and that tattooing was universal at least among the warriors in the whole region.

Body-painting he speaks of as universal.

Colonel Mallery² quotes from the *Jesuit Relations* (1641, p. 75) "that the Neuter Nation had their bodies tattooed from head to foot with a thousand divers devices."

In the *Jesuit Relation* for 1663 (p. 28) there is an account that an Iroquois chief bore on his thigh sixty marks indicating the sixty enemies he had killed.

WISCONSIN AND MICHIGAN.—The Algonquian tribes everywhere seem to have practised the custom. The Menomini word for tattoo mark is *tâ'tshikagu'n*.³

ESKIMO.—Gilder⁴ thus describes, from personal observation, the tattooing of the Eskimo of the Hudson Bay region:

"[When married] the wife then has her face tattooed with lamp-black and is regarded as a matron in society. The method of tattooing is to pass a needle under the skin, and as soon as it is withdrawn its course is followed by a thin piece of pine stick dipped in oil and rubbed in soot from the bottom of a kettle. The forehead is decorated with a letter V in double lines, the angle very acute, passing down between the eyes almost

¹ *Histoire de l'Amérique Septentrionale*, etc., from 1534-1701, by M. de Bacquer-ville de la Potherie, né à la Guadeloupe; Paris, 1753, vol. II, p. 104.

² *Truth Rep. Bur. Am. Eth.*, p. 394.

³ Hoffman in *Fourteenth Rep. Bur. Am. Eth.*, pt. 1, p. 326.

⁴ *Schwatka's Search*, by William H. Gilder; N. Y., 1881.

to the bridge of the nose, and sloping gracefully to the right and left, before reaching the roots of the hair. Each cheek is adorned with an egg-shaped pattern, commencing near the wing of the nose, and sloping upward toward the corner of the eye; these lines are also double. The most ornamented part however is the chin, which receives a gridiron pattern; the lines double from the edge of the lower lip; and reaching to the throat towards the corners of the mouth, sloping outward to the angle of the lower jaw. This is all that is required by custom, but some of the belles do not stop here. Their hands, arms, legs, feet, and in fact their whole bodies, are covered with blue tracery that would throw Captain Constantine completely in the shade. Ionic columns, Corinthian capitals, together with Gothic structures of every kind, are erected wherever there is an opportunity to place them; but I never saw any attempt at figures or animal drawing for personal decoration. The forms are generally geometrical in design, and symmetrical in arrangement, each limb receiving the same ornamentation as its fellow. None of the men are tattooed. Some tribes are more profuse in this sort of decoration than others. The Iwillik and Kinnepatoos are similar, and as I have described; but the Netchillik, Ookjoolik, and Ooqueesiksillik women have the designs upon their faces constructed with three lines instead of two, one of them being broader than the others. The pattern is the same as that of the Iwilliks and Kinnepatoos, with the addition of an olive branch at the outside corners of the eyes and mouth."

These Eskimo inhabited the northern part of Hudson bay and the coast some distance toward the west, and might be called the Central Eskimo.

On St Lawrence island, Alaska, —

"... a woman was tattooed in curved lines along the sides of the cheek, the outer one extending from the lower jaw over the temple and eyebrow."

At Cape Thompson —

"all the women were tattooed upon the chin with three small lines, which is a general distinguishing mark of the fair sex along the coast. This is effected by drawing a blackened piece of thread through the skin with a needle as with the Greenlanders."

One girl, thirteen years of age, was marked upon the chin with a single blue line, and a girl of ten had no tattooing.¹

¹ *Narrative of a Voyage to the Pacific and Behring's Strait*, by Captain F. W. Beechey, R. N.; London, 1831, vol. i, pp. 332, 360, 407.

Richardson¹ asserts —

"In Greenland and throughout Eskimo-land the women tattoo their faces in blue lines produced by making stitches with a fine needle and thread, smeared with lamp-black. Every tribe has a recognized form of tattooing."

Crantz,² who was a missionary in Greenland for thirty years, states that the women —

"have a thread blackened with soot drawn betwixt the skin of their chin, and also their cheeks, hands, and feet, which leaves such a black mark behind when the thread is drawn away, as if they had a beard. The mother performs this painful operation on her daughter in her childhood, for fear she might never get a husband. . . . Our baptized Greenlanders have relinquished this practice long ago."

Captain Back³ found the Eskimo women near the Great Fish river "much tattooed about the face and middle and fourth fingers." One of them —

"had six tattooed lines drawn obliquely from the nostrils across the cheek; eighteen from her mouth across her chin, and the lower part of her face; ten small ones branching like a larch tree, from the corner of each eye; and eight from the forehead to the centre of the nose, between the eyebrows."

The men were not tattooed (p. 288).

Murdoch⁴ made a careful study of the subject and collected a large number of authorities. He states (p. 176) that the tattooing of women is almost universal among the Eskimo from Greenland to Kodiak island, including the Eskimo of Siberia except in Smith sound, although intercourse with the whites is diminishing the practice. At Point Barrow he found it confined principally to their chins, one to seven vertical lines. A single line was rare, but then broad. They were generally tattooed at maturity, but some little girls had one line. On the men, tattooing was a mark of distinction, as lines across the cheek indicated the number of whales cap-

¹ *The Polar Regions*, by Sir John Richardson; Edinburgh, 1861, p. 305.

² *History of Greenland*, by David Crantz; London, 1767, vol. 1, p. 138.

³ *Narrative of the Arctic Land Expedition, 1833-1835*, by Capt. Back, R. N.; Philadelphia, 1836, p. 289.

⁴ Point Barrow Exped., 1881-1883, *Ninth Rep. Bur. Am. Eth.*

tured. One had the flukes of seven whales, lines on the breast; another lines on the arm. A wife had little marks at the corners of the mouth, showing whales taken by her husband. Some whale-marks were lines over the nose, or from the eye to the cheek, or crosses on the shoulder. The same marks are seen in the Mackenzie district.

Two horizontal lines across the nose indicated a murderer; the killing of a bear had its mark, and other devices were in remembrance of an absent or a deceased person. The operation was performed with a needle and thread, smeared with soot or gunpowder; it was painful, and followed by inflammation for several days. Murdoch's quotations mention devices on different parts of the body. It is stated (p. 140) that the chin lines on women prevail among certainly most of the Eskimo everywhere; sometimes the tattooing extends to the arms, body, etc.

Captain Cook refers to the chin marks on Eskimo women. G. Holm¹ writes that the Greenland Innuít tattoo geometric figures or streaks and points; the females on breasts, arms, legs. Bancroft (vol. 1, p. 42) notes that the Eskimo women tattoo lines on the chin: some, one vertical line in the center, and one on each side, parallel; higher classes, two vertical lines, one from each corner of the mouth; that young Kodiak wives tattoo the breast and face with black lines, and that Kuskokwim women sew into their chin, with a thread covered with soot, two parallel lines.

Wuttke (p. 111) asserts that the Koryak women are tattooed after marriage, and every year new marks are added. The Aleut women tattoo.

Joest (p. 4) remarks that all women among the Eskimo and many Pacific coast tribes tattoo lines on the chin; and Dr O. Finsch (p. 49) that the Aleut tattoo on chin, neck, arms; the women a moustache (like the Aino and the Yakut).

Wood² writes that the Eskimo in some places cover the limbs and much of the body; some the forehead, cheeks, chin; and that chin lines mostly indicate marriage, although some unmarried girls have them.

¹ *Eth. Stia.*, Copenhagen, 1887, pp. 101, 108.

² *Man. Asia*, p. 698.

Many other authorities can be quoted, and it will be noticed writers differ somewhat, largely because their statements are merely incidental without any accurate study of the subject.

Dr George B. Gordon¹ found all these Eskimo women were tattooed with the chin lines, and had devices also on other parts of the body: one had on her forearm a coarsely crocheted "mitt";² a boy had a raven on his breast, and whale fins on his arms. Many tattoo marks evidently had a deeper meaning.

Old whalers have told me all the Eskimo wore some mark, perhaps only a small design.

In a summer camp of Eskimo at Nome, Alaska, in 1907, consisting of two hundred persons, all the women had two double lines on the chin. They belonged to the Diomedes, King's island, Cape Prince of Wales, and two or three families in Siberia. All were exactly the same Eskimo, intermarried, and frequently passed to and fro between America and Asia.

Tattooing plainly was an almost universal custom among the Eskimo. The women had lines on the chin which indicated marriage; the unmarried girls generally were marked with one line there at puberty. Other parts of their bodies also bore designs—breast, back, legs, arms, forehead, cheeks: such as a V on forehead, egg-shaped patterns or trees on cheeks, fan-like devices nose to forehead, lines at corners of mouth and eyes, geometric stripes and points on any part of the body. The chin lines were sometimes worked into elaborate designs. Some writers state that no man will marry a girl unless she has one chin line, and that women without any device are not well received in the next world. The men bear various devices, as whale marks (number killed), ravens, whale-fins, etc., and on different parts of the body.

HAIDA.—The most elaborate and artistic tattooing was found among the Haida of Queen Charlotte islands and Prince of Wales island. A tribal professional tattooer did the work, which was performed at festivals and accompanied with ceremonies. The devices

¹ Notes on the Western Eskimo, *Trans. Dept. Archaeology Univ. Pa.*, 11, pt. 1.

² The hands and arms of the women of Yap, Western Carolines, are tattooed with mitts, as in the Marshall islands.—*Cent. Dict.*, under "Mitt." *Pop. Sci. Mo.*, xxx, 208.

were often the same as those painted on their boats and house fronts, and carved on pillars and monuments as heraldic designs, family totems, or crests, viz., thunder-bird, bear, beaver, wolf, goat, split cod-fish, sculpin, dragon-fly, dog-fish, double raven or eagle, frog, squid, halibut, bear's head, eagle's head, mythological wolf, etc. Every line and pattern had its name and meaning. The men were tattooed between the shoulders, on the breast, front of both thighs, legs below the knee; the women, breast, both shoulders, forearms to knuckles, both legs below the knee. On a woman's arms and hands was her family name, as bear, cod, etc.; on a man's breast a cod split open, on each thigh an octopus, on the lower leg a frog. The breast of a woman had the head and fore-paws of a beaver, and each shoulder an eagle's head; each forearm a halibut; right leg a sculpin, left a frog. The devices varied in different individuals. Another woman had a bear's head on her breast, on each shoulder a thunder-bird's head, on the arms and legs, bears. One man's back had a split mythical wolf, and his face and fingers also animal devices, as bears, etc. The process was painful, and years were required to complete the whole work. The peculiar broad lines and many of the figures and the general character of the whole remind one strongly of the tattooing in some of the Pacific islands, where also the devices are found on canoes, pillars, house fronts, etc. Some of the designs are singularly like those of the ancient Mexicans.

Swanton suggests: "It is barely possible that the Haida custom of tattooing may have come from some Polynesian island, as its introduction is always said by the natives to be recent."¹

Swan gives a full account of his own original research.² He mentions the following tribes from Prince of Wales archipelago to Bentinck Arm, about 52° N.: Massets, Skiddegates, Cumshawas, Laskeets, and the Skringwai, of Queen Charlotte islands; the Kai-gani, Howkan, Klemakoan, and Kazan, of Prince of Wales archipelago; the Chimsyans about Fort Simpson and on Chatham sound; the Nass and Skeenas, the Sebasses, and the Millbank Sound Indians, including the Hailtzas, Bella Bella, Bella Coola, etc. Among

¹ Handbook Am. Inds., *Bull.* 30, *Bur. Am. Eth.*, 1, 539.

² Tattoo Marks of the Haida, etc., by James G. Swan, *Fourth Rep. Bur. Eth.*, 661.

all these bands or tribes tattooing in some manner is common, "but the most marked are the Haidas proper, or those on Queen Charlotte islands, and the Kaiganis of Prince of Wales archipelago, Alaska." Referring to some authors, he expresses himself thus:

"How these writers, if they had seen naked Haida, could see them without tattoo marks I cannot understand . . . I am of the opinion, judging from my own observation of over twenty years among the coast tribes, that but few females can be found among the Indians, not only on Vancouver's island, but all along the coast to the Columbia river, and perhaps even to California, that are not marked with some device tattooed on their hands, arms, or ankles, either dots or straight lines; but among all the tribes mentioned the Haidas stand preëminent for tattooing, and seem to be excelled only by the natives of the Fiji islands or the King's Mills group in the South Seas."

The devices are family totems, and are similar to those on carvings, monuments, etc., and every mark has its meaning. Those on the hands and arms of the women indicate the family name, as eagle, bear, wolf, beaver. One quaintly said to Swan, "If you were tattooed with a swan, we should know your family name."

The process is to first draw the design on the person with a dark pigment, then prick it in with needles, and rub over the wound with more of the color until the proper hue is acquired. It is not all done at once. One instrument was a flat strip of ivory or bone, to which were tied five or six needles projecting only a little, to avoid a dangerous wound. The operation is very painful and made some quite sick for several days. It is a mark of honor, and done just before a festival in open lodge. Often years are required to complete it. Not every one can tattoo, only experts.

Swan calls attention to the similarity of carvings, etc., here and in Central America.

Hoffman¹ in 1884 met a band of Haida from Queen Charlotte islands. Most of them were tattooed on the breast, back, forearm, and legs. With them was the tribe tattooer, whose work was remarkable. The black color was powdered charcoal, gunpowder, or India ink, and the red, Chinese vermilion. Formerly the instruments were sharp thorns, fish spines, or bones, but recently

¹ *Tenth Rep. Bur. Eth.*, p. 396.

bunches of needles. There was much ulceration. He gives copies of many designs copied from the flesh of these Indians.

The Haida, like many other tribes of this coast, also paint their faces and bodies, sometimes with elaborate figures for their festivals or potlaches.

Dr Swanton has contributed some eighty-one facial paintings of the Tlingit, with their meanings.¹ The faces are represented with the markings in colors as drawn by two natives. No better example could be cited of how much important material can be gathered about meanings, and that such work demands time, patience, opportunity, and training for such investigations.

Poole² describes the difference between such painting, which was temporary, and tattooing which is permanent. He lived among the Haida two years and states that many festivals are purely social. For these they first wash the black paint from their bodies; then they smear them with fish grease to make the colors "stick well," and repaint in red their faces, chests, and arms with figures of men, birds, or fish. Then they sprinkle their bodies all over with white down.

On page 310 Poole writes the usage is common among the women of disfiguring their breasts, arms, ears, and underlip. One daughter of a chief had half her body tattooed with representations of chiefs, fish, birds, and beasts. "She told me that a halibut laid open, with the face of the chief drawn on the tail, would protect her and her kin from drowning at sea."

Bancroft and some other writers speak as if there was little tattooing among the Haida. This is quite correctly explained by Swan. When they visit the towns they are clothed, hence marks only on the hands are visible.

In a letter to the author, Dr C. F. Newcombe, Victoria, British Columbia, writes that most of his observations on tattooing had been made among the Haida, and a good deal had already been published by Swan, etc., in early volumes of the Bureau of American Ethnology. "Many of the identifications of the crests are wrong, but the conclusions are in the main correct."

¹ The Tlingit Indians, by John R. Swanton, *Twenty-sixth Rep. Am. Bur. Eth.*, p. 418, pls. xlviii-lvi.

² *Queen Charlotte Islands*, by Francis Poole; London, 1872, p. 321.

Lieut. G. T. Emmons was away from his notes at the time he wrote me (Dec. 17, 1908), as follows:

"Tattooing among the Northwest Coast tribes is rather an extensive subject, and each particular people would have to be taken up separately, as some practised it to a much greater extent than others in the past. There are many different people from Puget sound to Bering sea, and where with some tattooing was totemic in character, in conventionalized animal designs, among adjoining people it was geometric, in conventional design, and again merely ornamental and meaningless. I simply say this to show how extended the study would be, to be at all accurate."

These two letters indicate two things: how extensive tattooing was on this whole coast, and that these investigators have valuable material which it is to be hoped some time will be made available to scholars.

NORTHWEST COAST AND INTERIOR.—The Tsimshian, Kwakiutl, and Bellaçoola tattooed the arms and feet, the Nootka the breast and arms, and often had scars running from breast to belly and down the legs and arms. Tribes practising the *Hamatsa* ceremonies show remarkable scars by biting.

The carved faces of Kwakiutl posts show tattooing.¹

The Kutchin (Athabaskan) on the Yukon tattooed a black stripe down the forehead and nose, etc., and the women the chin.²

The Cree (Algonquian) in Manitoba, Assiniboia to Hudson bay and Lake Athabaska, tattooed one or two lines on the chin.³

Speaking of the Kristeneaux, or Cree, Mackenzie⁴ says that some of the women tattoo three perpendicular lines, which are sometimes double, one from the center of the chin to that of the underlip, and one parallel on either side to the corner of the mouth. And the Indians farther north have a black artificial stripe across the face beneath the eyes (p. 148). The belly and breasts were scarred by burning to cure disease or to show courage (p. 241).

The Chipewyans, an Athabaskan tribe, were a numerous people between latitude 60° and 65° N., and longitude 100° and 110° W.

¹ Mallery in *Tenth Rep. Bur. Am. Eth.*, pp. 391, 407.

² Bancroft, *Native Races*, 1, p. 127.

³ Wulke, *Die Entstehung der Schrift*, p. 130.

⁴ *Voyages in North America*, etc., 1789-1793, by Sir Alexander Mackenzie; New York, 1802, p. 66.

(p. 82). Among these "both sexes have blue or black bars, or from one to four straight lines, on their cheeks or forehead, to distinguish the tribe to which they belong. These marks are either tattooed or made by drawing a thread, dipped in the necessary color, beneath the skin" (p. 85).

Father Morice gives interesting details of the Western Dénés.¹ He states that tattooing was formerly very prevalent among these, and not confined to the chest, arms, and legs, as in the neighboring heterogeneous tribes, but extended to the face. The face designs were generally lines, single or parallel, on the cheeks, forehead, temples, chin, or radiating from corners of mouth, and were not totemic. Where figures, these were crosses, fishes, birds, fern-root diggers, etc. The breast was not so commonly tattooed as among the coast tribes, but the devices here were mostly totemic. The symbol (p. 208) of the grizzly bear was greatly honored, and its marking "cost many a ceremonial banquet." The forearms, inside and out, were more often the seat of a personal totemic design, an animal seen in a dream. Sometimes the marks on arms and legs were intended as a charm against weakness, then being simply one or two transverse lines. The face devices were conventional signs for the otter, a fish, bird, beaver, stick in water, mountain, fern-root digger, marten, lizard, caribou.

OREGON AND WASHINGTON. — Of the Takelma of southwestern Oregon, Dr Edward Sapir writes in this journal (April, 1907, p. 264) that boys do not tattoo. Girls have three down stripes on chin, one in the middle, one on each side. Girls not marked are derided as boys. Men are rarely tattooed on the face, but generally only with a series of marks on the left arm as a means of measuring strings of shell money.

Mallery² states that the tribes of Oregon, Washington, and northern California used sharp pieces of bone, thorns, and the dorsal spines of fish, but now needles.

The Reverend Mr Eells reported that for tattooing the Twana Indians of Washington use a needle and thread, blackening the thread with charcoal and drawing it under the skin as deeply as they can bear it.

¹ *Transactions Canadian Institute*, 1895, IV, 1892-93, p. 182.

² *Fourth Rep. Bur. Eth.*, 1886, p. 49.

Bancroft¹ says that the Chinook tattooed lines and dots on the arms, legs, and cheeks, pricked in with pulverized charcoal.

CALIFORNIA. — Prof. R. B. Dixon writes me, January, 1908:

"For the northern California area, where I have done most of my field work, it is always practised, but in use much more by women than men. The women make a series of vertical lines on the chin, or cheek, or both. In some tribes, as on the lower Klamath, the edges of the lines are saw-toothed; occasionally a few lines on the breast, and among the Maidu, at least, lines or dots on backs of hands. The men rarely had tattooing on the face; when they did, as among the Maidu, it was a vertical line from nose across the forehead. Rarely men had one or two vertical lines on the chin, but more commonly a few lines on arm or breast for measuring strings of beads, arrows, etc. A woman's marks generally show she is marriageable. The practice now is dying out. The minute details differ with the tribes. So to a certain extent they serve as tribe marks. There is no reason to consider the practice as borrowed, or new. Generally the marks are made about the age of puberty, but no elaborate ceremony is observed. Shasta girls note their dreams on the following night. Certainly it is more than ornament in California.

"The verbal stem of Wintun terms for tattoo is: Chimariko, *kat*, 'to cut'; Achomawi, *tei-tchip*, 'to split fine'; Atsugewi, *tee*."

Regarding the Achomawi and Atsugewi, Professor Dixon² states:

"Tattooing was little used on the whole. Women made three lines on the chin; some also put lines on the cheek. Men occasionally had a line of small dots running from the eye across the temple."

Beechey³ relates as to the Californian Indians:

"Tattooing is practised in these tribes by both sexes; both to ornament the person and to distinguish one clan from the other. It is remarkable that the women mark their chins precisely in the same way as the Esquimaux."

Ida Pfeiffer⁴ noticed that the Indian women of northern California "were tattooed on the hands and arms as well as the chin;" and at Marysville, at the confluence of the Feather and Yuba rivers, "the women are a little tattooed on the chin."

¹ *Native Races*, 1, 229.

² *American Anthropologist*, April-June, 1908, p. 210.

³ Beechey, vol. II, p. 77.

⁴ *A Lady's Second Journey*, etc.; N. Y., 1856, pp. 307, 317.

Langsdorf¹ remarks that most California women are tattooed from chin to breast, and on the shoulders; some have a double or single line from the corners of the mouth to the chin; some lines in the center of the chin.

Wuttke² writes that the Coast Indians by their tattooing recognized friend from foe.

Karok women tattoo three narrow fern-leaves perpendicular on the chin: one in the center, one in each corner of the mouth.

Nearly every man among the Hupa has ten lines on the inner side of the left arm to measure shell money from the thumb nail.

Patawat women tattoo three narrow pinnate leaves perpendicular on chin, and lines and small dots on hands.

Women of the Kastel Pomo and other tribes of the Coast range often tattoo trees or something over the whole abdomen and breast.

Wintun women all tattoo three narrow lines on chin, one in center, one at each corner of the mouth.

The Mattoal differ from other tribes because the men tattoo. Their distinctive mark is a round blue spot in the center of the forehead. Women tattoo nearly the whole face.

Powers states that California Indian women never attempt ornamental devices, but adhere to regulation tribe marks.

Lieut A. W. Whipple remarks of the Mohave that blue marks on a woman's chin denote she is married.

Gatschet reports that among the Klamath few men now tattoo the face. These have a single line, lip to chin. Half-breed girls have one line there; full-blood women four vertical lines. Powers speaks of "the tattooed chins" of the Klamath maidens.

Modoc women tattoo three vertical lines on chin.³

Bancroft⁴ states of central California that tattooing is universal among the women, although limited in extent—the three chin lines, as in northern California, and also slightly on the neck and breast, as tribe marks; but the men rarely tattoo. The "New

¹ *Travels*, 1806, vol. II, p. 144.

² Page 104.

³ Mallery in *Tenth Rep. Bur. Eth.*, 406; Powers in *Contrib. N. Am. Eth.*, III, p. 20, etc., and in *Overland Monthly* VIII, 1872, p. 329; Bancroft, *Native Races*, I, p. 332, etc.; Goddard, *Life and Culture of the Hupa*, 1903, p. 49.

⁴ *Op. cit.*, vol. I, p. 369.

Almaden¹ cinnabar mine was resorted to from time immemorial for a hundred miles away. At Bodega the women "were as much tattooed as any in the Sandwich Islands," and in the Sacramento valley most of the men had some devices on the breast. Bancroft also quotes from Hale, Wilkes, Kelley, La Perouse, Drake, Petits-Thouar, Choris, Auger, etc., showing these authors noticed tattooing here, and the triple lines on the chin of women and devices elsewhere.

In northern California the same writer mentions (p. 326) the various tribes, Klamath, Modoc, Shasta, Pit River Indians, Yurok, Karok, Hupa, numerous tribes along the coast as Wiyots, Wallies, Tolawahs, and Rogue River Indians, among all of whom tattooing was "universal among the women, and much practised by the men," the latter confining it to the breast and arms (p. 332). The women had the three vertical chin lines, and in some tribes marks on the arms and hands. Some details are given of the Shasta, Trinidad Bay, Mad River, Humboldt, Eel River, Karok, and other Indians quoted from early explorers, all showing the same devices as above given.

In southern California, according to Father Boscana, the Luiseno girls were tattooed in infancy on the face, breast, and arms. Charcoal was pricked in with a cactus thorn.

The Serranos of southern California formerly tattooed on cheeks and chin the same designs drawn or incised on trees or boundary posts. This was still in vogue in 1843.

The Mattoal men, according to Hoffman, tattooed a round blue spot on the forehead.¹ Speaking of the same people (Mattole), Goddard² says: "The men tattoo a distinctive mark on the forehead."

All adult women among the Hupa "were tattooed with vertical black marks on the chin, and sometimes curved marks were added at the corners of the mouth."³ The men "had a set of lines tattooed on the inside of the left forearm to measure shell money."⁴

¹ Hoffman in *Trans. Anthropol. Soc. Wash.*, 11, p. 66, 1883.

² *Handbook Am. Ind.*, 1, p. 823.

³ *Ibid.*, p. 583.

⁴ *Ibid.*, p. 447.

The Mohave, a Yuman tribe of the Colorado river, "are famed for the artistic painting on their bodies. Tattooing was universal, but confined to small areas of the skin."¹

Enough quotations and statements have been cited to indicate that Swan's assertion that hardly a woman could be found on the whole Pacific coast as far south as the Columbia river who had not some tattoo mark seems to have been almost as true to the Mexican boundary. Even today tattooing is general among very many of these tribes, and large numbers of the men also bear devices. In fact the custom has persisted to a much greater extent on this coast than anywhere else in North America excepting among the Eskimo. Elsewhere many tribes in which it was universal have lost all remembrance of the practice. White men's ways, white husbands, change in habitat, mode of life, habits, customs, the great diminution in numbers, loss of pride in their race, the general depressing effect of civilization on the Indian in so many ways, have greatly affected tattooing. The missionaries too have discouraged it. It is said to have nearly disappeared among the remaining nine hundred Haida, at least as an elaborate art.

The three vertical lines on a woman's chin indicating marriage, and measuring marks on the left arms of the men, are universal in many tribes. A round spot in the middle of the forehead is found in some, and formerly trees and various designs were tattooed on the bodies. The devices everywhere were more than ornamental, and seem to have been symbolic, or to have had some definite purpose.

NORTHWESTERN MEXICO AND ARIZONA. — Among the Pima of Arizona "the older women have tattooed lines on the chin, and frequently a single line from the external angle of each eye backward. The young neither tattoo nor paint."²

The late Dr Frank Russell tells us³ of the Arizona Pima :

"A few lines were tattooed on the faces of both men and women. Thorns and charcoal were used in the operation. The thorns were from the outer borders of the prickly-pear cactus; from two to four were tied

¹ *Handbook Am. Inds.*, 1, p. 919.

² Hrdlička in *Am. Anthropologist*, Jan., 1906, p. 45.

³ The Pima Indians, *Twenty-sixth Rep. Bur. Am. Eth.*, pp. 161, 162.

together with loosely twisted native cotton fiber to enlarge the lower portion to a convenient size for grasping, while the upper end was neatly bound with sinew. The charcoal, from either willow or mesquite wood, was pulverized and kept in balls 2 or 3 cm. in diameter (fig. 78). Both men and women did the work, but the female artist was preferred, as she was more careful. Their fees were small and uncertain.

"[The lines] were drawn on the face first with dry charcoal, then some of the powdered charcoal was mixed with water, and the thorns were dipped into this and pricked into the skin along the outlines. As the operation progressed the face was frequently washed to see if the color was being well pricked in. Two operations were necessary, though it sometimes took more; one operation occupied an entire day. For four days thereafter the face remained swollen, and throughout that period the wound was rubbed with charcoal daily. At the end of that time a wash of squash seeds macerated in water was applied. Sometimes the lips were slow in healing and the individual was compelled to subsist upon pinole, as the swollen lips and chin forbade partaking of solid food; during this time the squash applications were continued.

"The men were tattooed along the margin of the lower eyelid and in a horizontal line across the temples. Tattooing was also carried across the forehead, where the pattern varied from a wavy transverse line to short zigzag vertical lines in a band that was nearly straight from side to side. Occasionally a band was also tattooed around the wrist. The women had the line under the lids, as did the men; but instead of the lines upon the forehead they had two vertical lines on each side of the chin, which extended from the lip to the inferior margin of the jaw, and were united by a broad bar of tattooing, which included the whole outer third of the mucous membrane of the lip on either side.

"The tattooing was done between the ages of 15 and 20; not it would seem at the time of puberty, but at any time convenient to the individual and the operator. Oftentimes a bride and groom were tattooed just after marriage. All the older Pimas are tattooed, but the young people are escaping this disfigurement. . . .

"The meaning of the designs is unknown. The Pimas aver that the lines prevent wrinkles; thus fortified they retain their youth."¹

Both sexes among the Pima painted their bodies. "The men used more black, and were especially careful to intensify the tattoo marks." If the devices ever had meaning, it is now forgotten.

¹ It may be added that the New Zealanders claim the same.

Plate xxxviii, figure *d*, of Dr Russell's memoir shows distinctly three vertical lines on a woman's chin, and many vertical lines on each cheek from the eyes as far down as the corners of the mouth.

Bancroft¹ says of the Pima that some tattoo their newly born children round the eyelids, and girls at maturity from the corners of the mouth to the chin.

Of the tribes of northwestern Mexico, the same writer says the Tarahumare tattoo the forehead, lips, and cheeks, in various patterns. The Yaqui tattoo the chin and arms, while other tribes tattoo the face or body in styles peculiar to themselves. He gives a long list of authorities.

Dr Antonio Peñafiel, Director General de Estadística de México, has kindly directed my attention to the valuable work of Dr Baca. He has also been interested to write to proper officials in Sonora and Yucatan for information about tattooing there. One phrase in a report to the Mexican Legislature on the tribes in Sonora is about the Seris and as follows :

"Los hombres como las mujeres se pintan la cara con colores indelebles usando preferentemente el azul." (The men, like the women, tattoo (paint) the face with indelible colors, using principally blue.)

Dr Baca (p. 44) mentions the fact that the ancient natives of northwestern Mexico tattooed around the eyes.

Chroniclers of the Coronado expedition in 1540-42² describe these same marks evidently among the Opata Indians: "The women tattoo (*se labran*) on the chin and eyes like the Moorish women of Barbary" (p. 449). The Moorish women tattoo lines on the chin and marks near the eyes. This was in the Suya valley (p. 516), forty leagues from Señora (Sonora), and the ancient people, their habits and customs, were the same throughout a large part of northwestern Mexico.

Again we find (p. 356) "some painted Indians [perhaps the Pima or Sobaipuri of the Gila drainage] having their faces, chests, and arms tattooed."

¹ *Native Races*, 1, p. 532, quoting Walker, Johnson, Bartlett, et al.

² *Fourteenth Rep. Bur. Am. Eth.*, 1896.

A Mexican band of 97 musicians performed at a Food Fair held in Boston during October, 1908. There was also a large Mexican exhibit. On several days I took advantage of the opportunity to make careful inquiries about tattooing, not only from the members of the band but from more than a dozen other Mexicans—merchants, professional men, etc. They nearly all agreed on these points: that there was very little tattooing in the army but considerable among the lower classes in many parts of the country, and among sailors; that the savage wild Maya still tattoo, and among some of the hostile tribes in Sonora the practice is extensive and universal. One physician said he had seen a large number of the Sonora Indians. Most of them knew that tattooing was a general custom in ancient Mexico and Central America. All told me that their most common word for tattooing was *tatua'ge*; that *gravado* (engraved) was also common, and *pintado* (painted), *labrado* (worked), and *piado* (pricked) were also used.

These interviews were interesting as showing the views of a large number of intelligent Mexicans. It is plain there is much to be learned in Sonora and perhaps in Yucatan.

NEW MEXICO. — Mr Stewart Culin made inquiries for me among the Zuni, and writes:

"Tattooing (*tu'-na-ni*) was formerly practised. The devices were a morning star, new moon, sun, lightning, all on forehead; stars, snakes, lizards, crowfeet, and creek symbols on back of hand and arms, and no marks upon the bodies. It was practised by young men and girls, and thought to be lucky. A few persons now in the village are tattooed. Nick has the letters 'N-i-c-k' on his arm and a row of four dots on his forehead. Others have their name, and dots which signify stars. Nick says it is an old custom probably from Mexico. The crescent was borrowed from the Spanish horse-trappings, and is considered good luck in Spain."

In New Mexico the Coronado Expedition heard glowing accounts of Quivira, identified as the Wichita Indian country of eastern central Kansas. "In the camp was another tattooed (*pintado*) Indian, a native of Quivira."¹

"The Wichita are known as the *Tattooed People* from an old

¹ Castañeda's narration in *Fourteenth Rep. Bur. Am. Eth.*, 1896, p. 441.

custom now nearly obsolete. Hence the French called them *Pani Piqués*, "Pricked Pawnees."¹

In New Mexico also, in Coronado's time (1540-42),² "a tattooed Indian woman (*una india labrada*) ran away, because she recognized the country of the Tiguex [the Tigua country along the Rio Grande] where she had been a slave."

Another case of tattooing is spoken of:³

"They found a female Indian as white as a woman of Castile, except that she had her chin tattooed (*labrada*) like a Moorish woman of Barbary. Here all in general tattoo themselves (*se labran*) in this way, and they have designs about the eyes."

This was the district of or near northwestern Texas.

TEXAS AND THE GULF STATES.—Of the western portion of this district, perhaps Texas, Joutel,⁴ writing in 1687, states that the women tattooed their faces, some with a streak from the top of the forehead to the chin, others a triangle at the corner of the eyes; they also had devices on the breasts and shoulders, and pricked completely the lips. All these marks were made with charcoal which needed the blood to penetrate and which lasted for life.

Tattooing was practised among the Caddo, who belong to the same stock as the Wichita, or Pawnee Piqués, above referred to.⁵

Lemoyne D'Iberville in 1699 noticed among the Bayougoula in Louisiana that young women had their faces and breasts pricked and marked with black.

Bossu⁶ gives interesting details of his adoption by the Arkansas (Quapaw), and the tattooed mark of a roebuck imprinted on his thigh. He was seated on a tiger-skin; some straw was burnt, and the ashes mixed with water. The lines of the roebuck were drawn with this mixture, which were then pricked deep into the flesh with needles, till the blood came, which mixed with the ashes and made a figure which never could be effaced. He was next placed on white skins, and they danced and shouted for joy before him. The

¹ Mooney, *idem.*, part 2, p. 1095.

² Castañeda, *loc. cit.*, 444 (510).

³ *Ibid.*, p. 442 (506).

⁴ Margry, *Décovertes*, III, 363, 1879.

⁵ Alice C. Fletcher in *Handbook of Am. Ind.*, pt. 1, 181.

⁶ *Travels through Louisiana*, 1750; London, 1771, vol. 1, p. 107.

calumet was smoked. They told him that all their allies would welcome him as a brother when he showed his mark. The operation was very painful, and he had fever from it for a week. It was the mark of a warrior and chief.

Of the Kookies (Osages) he states (p. 163):

"He that had killed it [a monstrous magic serpent] carried the mark or impression of it tattooed on his body. Their process is this: They first draw the animal or figure with black, or gunpowder; then 'sting' the skin in the outline with one or more needles to the blood; the figure is then washed slightly with a sponge dipped in a solution of rock salt, which mixes the blood with the black, contracting the skin and rendering the figure indelible. It is a kind of knighthood, to which they are only entitled by great actions. These marks multiply with their achievements in war. One so tattooed without such deeds is degraded."

Bossu saw one suitor who had himself so tattooed in order to impress and win a beautiful Indian girl. The tribe held a council which decided that he and all others who thus had a club imprinted when unearned should have the mark torn off; that is, the skin flayed. Bossu, pitying the young man, offered to and did obliterate the design by applying Spanish flies, first giving him a dose of opium to deaden the pain.

On page 167 he tells us: "The Indian women are allowed to make marks all over their body, and they endure the pain 'to appear handsomer.'"

Mallery¹ states that "the Sixtown Choctaw still are distinguished by perpendicular lines tattooed on the chin." And Mr James Mooney writes me: "Osage warriors of special achievement were designated by special tattooing. I think all the Gulf tribes tattooed."

Adair² relates that "the blue marks over their breasts and arms" were as legible to them as our alphabet is to us.

"Their ink is made of the soot of the pitch pine, which sticks to the inside of a greased earthen pot; then they delineate the parts like the ancient Picts of Britain . . . they break through the skin with gair-fish-

¹*Tenth Rep. Bur. Am. Eth.*, p. 395.

²*History of the American Indians, Particularly Adjoining the Mississippi, East and West Florida, Georgia, South and North Carolina, and Virginia*, by James Adair, Esq., A Trader with the Indians and a Resident in their Country for Forty Years; London, 1775.

teeth and rub over them [the soot] to register them among the brave, and the impression is lasting."

A new design rewarded each scalp. False, unearned tattoo-marks were erased partially by rubbing them with the juice of green corn as a disgrace.

These remarks are in "General Observations on the North American Indians" (p. 377), and seem to apply to all the Indians with whom Adair was familiar.

Speck¹ says as to the Indians in the Southeastern states that the surviving members of this group are the Creek (Muskogi) tribes, the Yuchi, Cherokee, Choctaw, and Chickasaw, and the former Siouan tribes of the Carolinas, and that tattooing was quite generally practised. He also refers to scarification, which with mutilations were commonly practised in Mexico and many other parts of North America.

FLORIDA. — Hawkins' *Voyages*, 1565, relates:²

"They do not omit to paint their bodies also with curious knots, or antike worke, as every man in his own fancy deviseth, which painting to continue the better, they use with a thorne to pricke their flesh, and dent in the same, whereby the painting may take better hold. The war paint could be washed off."

A Florida chief, Satourina (1564), is shown as tattooed in plates viii and ix as drawn by Le Moyne.³

Fifteen years ago some of the Indians in the Tampa district were seen to be tattooed on the hands and forearms with figures of arrows, tomahawks, and also lines.

VIRGINIA. — Capt John Smith⁴ describes the Virginia Indians as having their "heads and shoulders painted red." Many other forms of paintings were in use. They "adorne themselves most with copper beads and paintings. Their women some have their legs, hands, breasts and faces cunningly embroidered with divers

¹ *American Anthropologist*, April-June, 1907, pp. 287, 294.

² Hawkins, *Early English (etc.) Voyages*, ed. by Henry S. Burrage; New York, 1906, p. 121.

³ Hakluyt, *Voyages*; London, 1809, vol. III.

⁴ *The True Travels (etc.) of Captain John Smith, 1593-1629*; Richmond, 1819, vol. I, p. 130.

workes, as beasts, serpents, artificially wrought into the flesh with black spots."

Mr C. C. Willoughby¹ writes:

"Tattooing was practised by both sexes, but it seems to have been more general among the women, who had their faces, breasts, shoulders, arms, and thighs 'cunningly ymbrodered with divers workes . . . as beasts, serpents, artificially wrought into their flesh with blacke spots.' " Some of the women in Hariot's illustrations have a broad band of a conventional pattern encircling their arms and legs, a narrow band around the wrist, and also a necklace-like pattern around the neck. In White's drawing (fig. 4) tattooing is shown upon the arms and legs only.

"Hariot says that the chief men of Roanoke did not tattoo or paint. The men generally had a totemic mark (cicatrix) raised upon the back of the shoulder or some other part of the body, large enough to be easily distinguished at a considerable distance."

This figure 4 and also figures 3 and 5 show on the faces and elsewhere marks which may be tattooing. In fact Bushnell² states that the original water-color sketch by White (fig. 4) does clearly show tattooing on the face, two lines of dots across each cheek, *three vertical lines on the chin*, and a *triangular design in the center of the forehead*. And he gives a copy (fig. 32, p. 448).

Plate VII, a Virginia Indian, in the *American Anthropologist* for Jan.-Mar., 1907 (p. 42), shows marks which possibly may be tattooing.

As to the "raised" marks on the chiefs, Hariot spells the word "rased." Now the earliest account of Eskimo tattooing is that of Frobisher, given in Hakluyt, 1589:³ "Some of their women rase their faces, . . . upon which they lay color which continueth dark azurine." In short does not "rased" mean incised, tattooed, in Hariot, and not raised cicatrices? There were sacrificial scars, and those the result of mutilations; but raised cicatrices have been nearly always confined to races so dark that tattooing would not show on their skin. Mallery⁴ takes this view of it, and gives

¹ The Virginia Indians, *American Anthropologist*, Jan.-Mar., 1907, p. 65.

² His note quotes William Strachey, *The Historie of Travaile into Virginia Britania*, Hakluyt Soc., p. 66, and Capt Smith above cited, p. 130.

³ *American Anthropologist*, April-June, 1907, p. 448.

⁴ Mardoch in *Ninth Rep. Bur. Am. Eth.*, p. 627.

⁵ *Tenth Rep. Bur. Am. Eth.*, p. 393.

illustrations of these devices (fig. 516), calling them "Virginian tattoo designs." Of the marks composing the seven devices, eleven are long, thin arrows, and the remaining three swastika-like figures made up of slender lines. Such patterns would show much more distinctly if colored than if mere scars, and scars could hardly show such minute outlines as a small arrowhead, etc.

"The inhabitants of all the country for the greater part have marks *raised* on their backs, whereby it may be known what Princes subjects they be, and of what places they have their original" — Harriot expresses it, and mentions only these tribal *raised* marks. Smith does not speak of these, but of the general custom of elaborate tattooing — a good illustration of the fact that writers do not record all the data. Neither apparently knew our word tattoo.

In Virginia the art was highly developed and artistic, and seems to have been general. As the women used it for ornament, all of them would naturally have some mark, and the tribe mark would be on all the men.

MIDDLE STATES AND OHIO. — Loskiel and Heckewelder both indicate that tattooing was at least a very common practice among the Delawares and Iroquois, who occupied the greater part of the Middle States and Ohio; and the Jesuit Relations, Potherie, and Sagard confirm them as to the Iroquois.

Heckewelder was a missionary among the Indians in Pennsylvania and Ohio, and gives interesting details. Tattooing was —

"a custom formerly much in use among them. . . . As late as 1762, when I resided at Tuscorawas, on the Muskingum, tattooing was still practised by some Indians; a valiant chief of that village, named Wawundochwalend, desirous of having another name given him, had the figure of a water-lizard engraved or tattooed on his face, above the chin, when he received the name Twakachshawsu, the water-lizard."¹

"In the year 1742, a veteran warrior of the Lenape nation and Monsey tribe, renowned among his own people for his bravery and prowess, and equally dreaded by their enemies, joined the Christian Indians who then resided at this place [Bethlehem, Pa.]. This man, who was then at an advanced age, had a most striking appearance, and could not be viewed without astonishment. Besides that his body was

¹ Indian Nations, by Rev. John Heckewelder, *Mém. Hist. Soc. Pa.*, vol. XII, Phila., 1876.

full of scars, where he had been struck and pierced by the arrows of the enemy, there was not a spot to be seen, on that part of it which was exposed to view, but what was tattooed over with some drawing relative to his achievements, so that the whole together struck the beholder with amazement and terror. On his whole face, neck, shoulders, arms, thighs, and legs, as well as on his breast and back, were represented scenes of the various actions and engagements he had been in; in short, the whole of his history was there deposited, which was well known to those of his nation, and was such that all who heard it thought it could never be surpassed by man."

At his baptism he received the name of Michael, and he died July 23, 1756, when about eighty years of age.¹

Loskiel² writes of him:

"In his younger days he had been an experienced and courageous warrior. . . . The serenity of his countenance when laid in his coffin made a singular contrast with the figures scarified on his face when a warrior. These were as follows: upon the right cheek, and temple, a large snake; from the under lip a pole passed over the nose, and between the eyes to the top of his forehead, ornamented at every quarter of an inch with round marks, representing scalps; upon the left cheek two lances, crossing each other; and on the lower jaw the head of a wild boar. All these figures were executed with remarkable neatness."

Heckewelder (p. 206) describes the process which he once saw. It was done quickly and caused little pain. The designs were drawn on the skin with a powder made of burnt poplar bark. The operator, with a small stick, a little larger than a common match, to the end of which needles were fastened, quickly pricked over the whole so that blood was drawn, then a coat of the powder was rubbed on and left to dry. He also states that before the whites came they used sharp flint stones, or the sharp teeth of a fish.

Loskiel³ writes:

"The most singular part of these ornaments is displayed in figures made by scarification, representing serpents, birds, and other creatures. The operation being performed with a needle, gunpowder is rubbed into

¹ *Ibid.*, p. 206.

² Pt. II, ch. XIII, p. 189.

³ *History of the Mission of the United Brethren among the Indians of North America*; London, 1794, pt. I, pp. 49, 52.

the puncture, and sometimes the whole upper part of their bodies is filled with these drawings; they appear at a distance to wear a harness. Sometimes by these decorations they acquired a particular appellation, by which their pride is exceedingly gratified. Thus a captain of the Iroquois, whose breast was all covered with black scarifications, was called the Black Prince. The intent of these ornaments is not to please others, but to give themselves a courageous and formidable appearance."

"Very few of the Delaware and Iroquois women think it decent to imitate the men in scarifying their skin."

He also¹ gives a long description of the idols (*manitos*) of these tribes, which depicts them to be exactly the same as the *zemis* of Haiti.

NEW ENGLAND AND THE BRITISH PROVINCES. — Tattooing was probably practised by all the tribes in New England and eastern Canada, but details are lacking. Wood² speaks of it "hereabouts," and LeClerc³ mentions it among the Micmac. Lescarbot denies it however.

There are some prints and illustrations which show tattooing in this district.

The fact that the Jesuit Relations, Potherie, and Sagard seem to imply that tattooing was common here has already been alluded to.

It is worthy of notice that *branding* for crime was occasionally recorded in New Hampshire. This was probably tattooing, like the supposed case of *branding* in southern California. Oviedo (p. 204) uses once the equivalent of "branded," "ironed" (*herrado*), for tattooing where the process is described. In 1818 the Massachusetts legislature passed an act compelling the puncturing of the skin, and rubbing in some coloring matter on the inner surface of the upper part of the left arm, with the letters "Mass. S. P.," and the date of discharge, of every second-term convict. Tattooing is old in New England, although as a punishment it was perhaps derived from England.

One of the great difficulties in treating our subject is that details or even mention are so often absent when the practice must have been common. Even the slightest hint is sometimes of value.

¹ Pt. 1, pp. 39, 40.

² *New England's Prospect*.

³ *Nouvelle relation de la Gaspésie*; Paris, 1691.

AM. ANTH., N. S., 11—26.


WEST OF THE MISSISSIPPI.—Many of the tribes west of the Mississippi practised the art, some elaborately. The Wichita of Kansas and Oklahoma covered so much of the body as to be called by the French "Pricked Pawnees," as already noted. Mr James Mooney writes me :

"The Kiowa women tattoo a small circle on the forehead. It is called *deh-sep*, 'forehead sewing, or piercing.' It is done, with no special ceremony, by expert older women. Wichita men and women tattooed formerly over a great part of the body. Osage warriors of certain achievement were designated by special tattooing. The Mandans and others tattooed (see Maximilian, Matthews, etc.) ; I think all the Gulf tribes did. The cross with the Indians signifies the four cardinal points. The primary Indian motive in tattooing was probably religious, the next for tribal identification, after that for military designation, and last of all for ornament."

Mallery¹ states that the Kiowa women frequently had small circles tattooed on the forehead, and (p. 395) Wichita men wore tattoo lines from the lips downward. They are called "tattooed people."

An Arapaho chief,² Black Coyote, had seventy sacrificial scars made by order of a voice in a dream to save the lives of his children. The devices are parallel lines, crosses, concentric circles, and one a sacred pipe, and are on both breasts and arms.

Col. H. L. Scott, U. S. A., writes me :

"I know the Mandans, Kiowas, Arapahos, Osages, Wichitas did it ; the Wichita women especially made concentric rings around the breast. The Arapahos do not tattoo now on the breast as they did in 1819 and 1846, and the custom has gone from their memory. Apache women of Arizona sometimes have four serrated lines () above the nose, in the middle of the forehead. I copy from my notes, made in 1897, of conversations with Kiowa Indians in the sign language of the Plains :

"When I (Iseco, a Kiowa) was a boy, we used to see the Osages on the Arkansas, and the chiefs tattooed around the neck with a ring of points, then another ring lower down, which came down on the chest. Only chiefs had that, and after they had struck an enemy. Most all

¹ *Tenth Rep. Bur. Am. Eth.*, p. 395.

² Plate cv, p. 898, *Fourteenth Rep. Bur. Am. Eth.*, pt. 2 (Mooney).

chiefs had it. The Kiowa and Kiowa Apache women sometimes had a ring (○) or a cross (+) over the nose, and between the eyes. The Tawakanies, Wacos, Kiechies, and Wichitas tattoo. Those were the only people we knew who did. I never saw a Comanche woman do it.' "

The term Arapaho is a Crow word signifying "tattooed on the breast." Their tribal mark was three equidistant blue punctures on the breast.¹

"In the sign language the Kiowa designate them [the Mandan] by indicating tattoo marks, stating that the women, and sometimes the men, tattooed the arms, breast, and around the lips." Clark says the proper sign for Mandan designates tattooing on the chin, and lower part of the face; also that fifty years ago the Mandan women had a small spot tattooed on the forehead and a line on the chin, while chiefs alone were tattooed, and this on one side of the breast, or one arm and breast. It may be that the small tattooed circle on the foreheads of many Kiowa women is an imitation from their Mandan sisters. Matthews saw "a few old men of the Hidatsa with parallel bands tattooed on the chest, throat, and arms, but not on any other part of the body, or on any young or middle-age persons in the tribe."²

Of the Omaha tribe Long writes:

"The persons are often neatly tattooed in straight lines and in angles on the breast, neck, and arms. The daughters of chiefs and those of wealthy Indians, generally are denoted by a round small spot tattooed on the forehead. The process of tattooing is performed by persons who make it a business of profit. Their instrument consists of three or four needles tied to the truncated and flattened end of a stick, in such arrangement that the points may form a straight line; the figure is traced upon the skin, and some dissolved gunpowder, or pulverized charcoal, is pricked in . . . The operators must be well paid."³ [So all cannot afford it.]

A drawing made by Kurz about 1850, now in the Bern Museum, shows the sitting figure of an Omaha. The arms and face are

¹ Scott in *American Anthropologist*, July-Sept., 1907, pp. 557-560.

² Mooney, *Calendar History of the Kiowa Indians*, *Seventeenth Rep. Bur. Am. Eth.*, p. 159.

³ *Expedition to the Rocky Mountains*, 1819, 1820, under Major S. H. Long, by Edwin James; London, 1823, vol. II, p. 8.

tattooed, and perhaps there is a necklace device, and also lines on the forehead, chin, and hand.¹ A Chippewa woman (fig. 10, p. 13) shows lines on the chin.

"The Chippewa have tattooed cheeks and foreheads. Both sexes have blue or black bars, or from one to four straight lines to distinguish the tribe to which they belong. They tattoo by entering an awl or needle under the skin and drawing it out, immediately rubbing powdered charcoal into the wounds."²

The female Midé' of the Chippewa often tattoo temples, forehead, or cheeks, for the headache or toothache. The operation is accompanied by songs and gesticulations to expel the demons who are supposed to cause the pain.³

Of the Dakota the Rev. J. Owen Dorsey says:

"In order that the ghost may travel the ghost road in safety, it is necessary for each Dakota, during his life, to be tattooed either in the middle of the forehead or on the wrists. In that event his spirit will go directly to the *Many Lodges*."⁴

In one of the myths of the Nez Percés is found the phrase: "Once a rabbit had a human arm that he had taken from a body, It was finely decorated."⁵ But Spinden⁶ remarks that tattooing was not practised among the Nez Percés.

Among the Mandan of North Dakota, Curtis⁷ found "tattooing done by means of porcupine quills and charcoal was frequently seen on the right breast and arm of the men, and on the lower part of the face of women. This was always done by certain men to the accompaniment of songs, the words of which were Assiniboin."

Formerly tattooing was more frequently practised among the Hidatsa than at present. Powdered charcoal was pricked in with a splinter of bone.⁸ Lean Wolf, second chief among them, had tattooed horizontal stripes, one-half to one-third inch broad, run-

¹ Bushnell in *American Anthropologist*, Jan.-Mar., 1908, p. 11, fig. 6.

² *Tenth Rep. Bur. Am. Eth.*, p. 406.

³ *Ibid.*, p. 395.

⁴ *Tenth Rep. Bur. Am. Eth.*, p. 395.

⁵ Spinden in *Jour. Am. Folk-Lore*, April-Sept., 1908, p. 154.

⁶ Nez Percé Indians, *Mem. Am. Anthropological Assn.*, vol. 11, pt. 3, 1908, p. 222.

⁷ *The North American Indian*, vol. 9, p. 343, 1909.

⁸ *Fourth Rep. Bur. Am. Eth.*, 1886, pp. 49, 52.

ning from the middle of the breast, round the right side of the body to the spinal column. The right leg and right arm were encircled by similar bands, between which were spaces of equal width. He professed not to be able to explain these marks, but he always put them on his pictographs.¹

Many of the Indians now with so-called "Wild West shows" have their chests and arms covered with all sorts of tattoo devices — animals, figures, etc., — probably done for exhibition purposes, and to gratify their love of ornament.

MEANING. — According to Mr Holmes,² "The aborigines throughout the western continent either painted or tattooed their bodies. In details they may have been governed to some extent by individual caprice; but there is evidence that they usually followed established and rigid laws of symbolism."

"When Indians now even make pictographs it is with intention and care, seldom for mere amusement."³

Among many tribes their totem must be tattooed on their bodies, and all strangers when adopted were marked with this tribal device, as the Quapaw a roebuck, the Chippewa a crane.

An "adopted brother's" design bound two Indians to assist each other in case of need. Other patterns indicated achievements in war or the chase, who was their chief, etc.

Vertical lines on the chin, which indicated a married woman among the Eskimo and the Indians of the Pacific coast, are found with the same meaning in Syria, Egypt, Tunis, among the Chukchi, in New Zealand, etc.

A New Zealand minister, in a sermon recently delivered in Indiana, said: "Husbands, tattoo your wives. It is a sure cure for the divorce habit. Put the tattoo marks on their chins," etc.⁴

It is a singular thing that these three vertical lines show marriage in such widespread districts. It may be accidental, but the fact is worth noting.

So a cross meaning the four directions with Indians, or a round

¹ *Fourth Rep. Bur. Am. Eth.*, 1886, p. 64.

² W. H. Holmes in *Handbook of Am. Inds.*, pt. 1, p. 325.

³ Mallery in *Tenth Rep. Bur. Am. Eth.*, p. 29.

⁴ *Boston Sunday Post*, Aug. 16, 1908.

spot, or a circle, or two concentric circles are very often found in the middle of the forehead among the Indians, and also in many parts of the world. The Hindu wife paints a pink round spot there every day. At a New Year reception given in Bombay by a rich Parsee merchant, every European lady on entering received a coin impressed securely on that same spot by the host. When a Gypsy dancing girl in Egypt particularly captivates a rich admirer by her graces, he sticks a large gold piece on the center of her brown forehead. There are reasons for these spots selected, and the marks,

The triangle again has a meaning in distant countries. In the Pacific it is an exceedingly common tattoo design, and symbolic.¹ The Indian woman in White's drawing, already referred to, has a triangle on her forehead. When a Turkish baby is sick, a charm is placed upon it, consisting of garlic, alum, and verses of the Koran, all sewed up in a little triangle of blue cloth.

It is impossible here to do more than hint at a few devices. The subjects are beset with difficulties and require careful discussion.

The Seri Indians would not disclose to McGee² the secrets of their elaborate face paintings, for he saw no tattooing.

Very few have studied the subject carefully. Taking the Haida, for example, some authors simply say there is tattooing, others that there is but little; yet Swan's splendid paper shows all had elegant devices, often over the whole body. So with the Eskimo: from many writers one would infer the custom was occasional and of little moment. Gordon,³ who went into the matter with care, found the practice universal at least among the women of the Western Eskimo, and that the marks had a meaning, and there were often large designs.

CONCLUSION. — The American Indian, gifted by nature with an exuberant imagination, yet made serious work of his mystic ceremonies and everything of a symbolic character. Tattooing would seem to be just the kind of art which would appeal to him, requir-

¹ See the writer's "Tattooing," etc., *American Anthropologist*, July-Sept., 1908, p. 385.

² *Seventeenth Rep. Bur. Am. Eth.*, p. 166*.

³ Notes on the Western Eskimo, *Trans. Dept. Archaeology-Univ. Pa.*, II, pl. I.

ing fortitude in the operation, and preserving indelible marks of his tribe, prowess, mystic symbols, and also gratifying his love of ornament.

This brief survey discloses a common practice of the custom over the whole of North America.

Among some tribes, as the Haida, Iroquois, "Pricked Pawnees," Delawares, the tribes of Virginia, Louisiana, Texas, etc., enough is recorded to show with them a general elaborate practice of tattooing, often the whole body.

The Eskimo still retain the custom as universal, as do many of the tribes on the Pacific coast. In the greater part of the United States, it, like the Indians themselves, has disappeared. The remnants left still west of the Mississippi have very little of it now, and often have entirely forgotten the neglected custom.

Among the ancient natives in the West Indies, Mexico, and Central America, tattooing was general, if not almost universal. This is perhaps the reasonable inference from what has been written, but many things point to the same conclusion.

The Indians did not look upon tattooing as a disfigurement, as do so many civilized people. They took pride in enduring the pain. They regarded it as enhancing the beauty of the fair sex, and the good looks of the braves, just as they did their body-painting, to us so hideous. Certain devices could be worn only for valiant deeds, other designs marked all slaves or subjects. Why should not every member of a tribe have borne the tribe mark if some did? A long study of the subject in other parts of the world discloses the fact that tattooing was and is in so many countries much more common than is supposed; indeed it is often universal where this was unknown to scholars. Boys and girls, too, themselves and for one another, prick in little dots and patterns for "beauty," to "show nerve," and to imitate. It must have been so among the Indians. The slightest mark is tattooing. It is a subject which many writers did not care for or notice. The striking extensive, startling figures were usually the only ones which attracted the attention and were recorded.

Today there is still an interesting and fruitful field for study among the Eskimo and on the Pacific. Much still can be learned

among the remaining Indians in the West and in Mexico, and perhaps Central America.

There are great difficulties in obtaining such information. One must understand the subject, know Indians well, and gain their confidence. Many things they do not like to speak of, or disclose, and they find it hard to describe, and to explain them even when willing.

ALLSTON, BOSTON, MASSACHUSETTS

THE VARIOUS USES OF BUFFALO HAIR BY THE NORTH AMERICAN INDIANS

By DAVID I. BUSHNELL, JR.

INTRODUCTION

AT the present day it is difficult to realize that only a comparatively short time has elapsed since vast herds of buffalo roamed over the greater part of the country east of the Rocky mountains, and that they traversed the region from the Mississippi to the eastern slope of the Blue Ridge, and from the pine lands of Georgia, Alabama, and Mississippi to the Great Lakes on the north. Evidently wherever buffalo were to be found they were hunted by the native tribes, by whom all the parts of the animal were utilized for various purposes.

The hair or wool of the buffalo appears to have been quite extensively used by all the tribes, and especially by those living east of the Mississippi. Quantities of it were collected, later to be spun or twisted into cords of which bags, belts, and other necessary articles were braided. Although the majority of the Eastern tribes appear to have used it extensively for such purposes, yet not a single object of buffalo hair work made east of the Mississippi can be traced in America, and only a few articles exist in Europe.

Some three years ago the writer described two bags, braided of twisted cords of buffalo hair.¹ One is in the Pitt-Rivers Museum at Oxford, the second is preserved in the British Museum, London. Both were undoubtedly made east of the Mississippi and may have been the work of some Algonquian tribe north of the Ohio. A description of these excessively rare pieces is included in the present article, thereby making it more nearly complete.

As will be seen in the following pages, the references to the use of the hair or wool of the buffalo by the native tribes of North America cover practically the entire habitat of that animal during pre-colonial days.

¹ The Use of Buffalo Hair by the North American Indians, *Mon.*, III, London, 1909.

I — THE MISSISSIPPI VALLEY AND EASTWARD TO THE ATLANTIC COAST

How far north in the Mississippi valley the hair or wool of the buffalo was used by the Indians is not known; but in all probability it was utilized throughout the area. However, it is evident that it was used quite extensively by the tribes farther south — from the Illinois to the Natchez.

The earliest reference to its use by the Illinois necessarily appears in Marquette's Relation.¹ When he reached the villages of the Illinois, soon after the discovery of the upper Mississippi on June 17, 1673, he entered in his journal —

"Everywhere we were presented with Belts, garters, and other articles made of the hair of bears and cattle [buffalo] dyed red, yellow, and gray. These are the only rarities they possess."

And later, when describing certain customs of the same tribe,² he made the interesting statement that —

"when the Illinois depart to go to war, the whole village must be notified by a loud shout, which is uttered at the doors of their cabins, the night and morning before their departure. The captains are distinguished from the warriors by wearing red scarfs. These are made with considerable skill, from the hair of bears and wild cattle [buffalo]."

Hennepin unquestionably referred to either the Illinois or to some neighboring tribe to the eastward when he wrote:

"The native women (*les femmes sauvages*) spin the wool of the wild oxen and make sacks to carry the meat smoked or dried in the sun."³

In a letter written by the Jesuit Père Gabriel Marest to Père Germon, dated at "Cascaskias [Kaskaskia] an Illinois village, Nov. 9, 1712,"⁴ occurs this reference to the wool of the buffalo:

"In addition to this [making rush mats] they are busied in working up the hair of the oxen and making it into leggings, girdles, and bags; for the oxen here are very different from those in Europe; besides having a great hump upon the back, near the shoulders, they are also wholly

¹ *Jesuit Relations*, Thwaites ed., vol. 59, p. 123.

² *Ibid.*, p. 127.

³ Père Louis Hennepin, *Nouvelle découverte d'un très grand pays situé dans l'Amérique*, Utrecht, 1697, p. 190.

⁴ *Jesuit Relations*, vol. 66, p. 231.

covered with a very fine wool, which takes the place of that which our savages would obtain from sheep, if there were any in the country."

These references to the making of bags by the Illinois or neighboring tribes are of more than ordinary interest. As has already been stated, the only known examples of work in buffalo hair or wool that were undoubtedly made east of the Mississippi, are two bags belonging to English museums. In form these closely resemble the bags even now made by the Chippewa and the Winnebago, of the upper Mississippi valley and near Lake Superior; but these modern specimens are made of twine or yarn obtained from the whites.

The more interesting and valuable of the two examples is preserved in the Pitt-Rivers Museum, Oxford. It is typically Algonquian in form; but unfortunately nothing is known of its history, when, where, or by whom it was collected.

Both sides of this bag are shown in figure 75. The dimensions of the bag are: length, about $19\frac{3}{4}$ in.; depth, not including the fringe, about $8\frac{3}{4}$ in. It is an example of braiding, not weaving, and the twisted cords extend diagonally across the surface, which makes it impossible to distinguish between the warp and the woof elements. In forming the bag, two strips, each about an inch in width and $8\frac{3}{4}$ inches in length, were made to serve as the ends to which the sides were attached. The fringe was formed by plaiting several cords extending from the lower edges of the two side-pieces. The sides were formed of the natural brown hair, while the ends, being somewhat darker, may have been dyed. The beads used in decorating the sides and ends are quite irregular in form, and are made of opaque white glass — one of the oldest varieties of trade beads used in America.

In decorating the bag the beads were not attached to the surface, as is now the general custom, but were first strung on the cord. This method is referred to by Adair; unfortunately, however, he did not specify the tribe or tribes by which the custom was practised, although he wrote of the general area east of the Mississippi and south of the Ohio. According to this writer:¹

¹ James Adair, *History of the North American Indians*, London, 1775, p. 423.



FIG. 75.—Two views of a buffalo-hair bag in the Pitt-Rivers Museum, Oxford.

"In the winter season the women gather buffalo's hair, a sort of coarse, brown, curled wool; and having spun it as fine as they can, and properly doubled it, they put small beads of different colours upon the yarn as they work it; the figures they work in those small webs are generally uniform, but sometimes they diversify them on both sides. The Choktah [Choctaw] weave shot-pouches, which have raised work inside and outside."

Nine years after Père Marest wrote from Kaskaskia, Charlevoix visited that village, and in a letter there written, dated October 20, 1721, likewise referred to the art of spinning the wool of the buffalo as practised by the women of the Kaskaskia tribe.

He says in part:¹

"The women are very neat handed and industrious. They spin the wool of the buffalo which they make as fine as that of English sheep. . . . Of this they manufacture stuffs which are dyed black, yellow, or a dark red."

A bag somewhat similar to the Pitt-Rivers specimen is in the Christie collection in the British Museum. It is braided of twisted cords of buffalo hair, decorated with similar white, opaque glass beads. The sides of this bag, however, were dyed a dark red. Very little of the color now remains, but sufficient to verify Charlevoix's reference to "stuffs which are dyed . . . dark red," made by the Kaskaskia. And this seems to strengthen the theory that the two bags, the one in Oxford, the other in London, were the work of the Illinois.

In several localities, either within or adjacent to the Kaskaskia or Illinois country, many fragments of large earthen pans, or shallow vessels, have been discovered in the vicinity of salt springs. Many of these fragments bear on their outer, or convex, surfaces the imprint of woven or braided fiber of varying degrees of coarseness. Some are very fine and close, while in others the impressions represent a coarse, open mesh. Although it is not possible to say definitely, it is highly probable that the cloths impressed on the pottery vessels were made of the hair of the buffalo.

Many varieties of cloth, some unusually fine, had been impressed on fragments of large pottery vessels discovered by the

¹ Charlevoix, *Journal of a Voyage to North America*, London, 1761, vol. II, p. 222.

writer near Kimmswick, Jefferson county, Missouri, during the autumn of 1902. These are now deposited partly in the Anthropological Museum of the University of California and partly in the Peabody Museum of Harvard University.¹

Examples of charred cloth recovered from mounds in Ohio exhibit the same diagonal braiding as the bags in the English museums, and it is not improbable that they are carbonized fragments of similar objects. These have already been illustrated.²

Some distance below the Kaskaskia, on the right bank of the Mississippi and not far from the mouth of the Arkansas, were the villages of the Quapaw.³ These were the *Cappas* of Joutel, by whom they were seen in 1683. Regarding the women of the tribe, he wrote thus:

"Those women have their faces still more disfigured than the others we had seen before: for they make several streaks or scars on them, whereas the others had but one. They adorn themselves with little locks of fine red hair, which they make fast to their ears, in the nature of pendants."⁴

Although, unfortunately, the sort of hair is not specified, its nature is at once suggested by the following entry in the old manuscript Catalogue of the Sloane Collection in the British Museum, written before 1750:

"1216. The same [buffalo] hair dyed red and yellow tyed in tufts on a string as an ornament for the Carolina Indians."

Again, it has been recorded of the Southern tribes in general that:

¹ D. I. Bushnell, Jr., *Primitive Salt Making in the Mississippi Valley*. — I. *Man*, 13, London, 1907. II. *Ibid.*, 35, 1908.

² Holmes, *Prehistoric Textile Art of Eastern United States*, *Thirteenth Rep. Bur. Am. Eth.*, p. 38, pl. VII. In pl. IX are shown fragments of cloth-marked pottery from Illinois. Also in *Third Rep. Bur. Am. Eth.*, *Prehistoric Textile Fabrics*, fig. 80, p. 408, represents the impression of a similar cloth from ancient pottery discovered in Tennessee.

³ On the large map of the "Course of the River Mississippi, from the Balise to Fort Chartres . . . by Lieu^t. Ross of the 34th Regiment: 1765," a Kappas (Quapaw) village is located on St Francis river, near its mouth, while another settlement of the same tribe is placed about 40 miles southward, on the right bank of the Mississippi. It is not possible, however, to give the exact location of the village visited by Joutel.

⁴ Joutel's Journal, in French, *Historical Collections of Louisiana*, New York, 1846, pt. I, p. 169.

"The women bore small holes in the lobe of their ears for their rings; but the young heroes cut a hole round almost the extremity of both their ears, which till healed, they stretch out with a large tuft of buffalo's wool mixt with bear's oil."¹

In addition to the specimen mentioned above, other examples of buffalo-hair work were formerly in the Sloane collection; but not one exists at the present time. The following entries are noted in the catalogue:

"1215 A rope for tying anything. Made of the hair of the head of the American buffalo. Described by Mr Hennepin."

"1536 A girdle made of Bufalos hair and porcupine quills."

"1656 A pair of garters made of the same [porcupine quills] and Bufalos hair. From the same [Mr Dering of South Carolina]."

The use of the hair by the Indians of the western part of Carolina, and also the occurrence of buffalo in that region, are mentioned by Lawson, who wrote during the first decade of the eighteenth century.

"He [the buffalo] seldom appears amongst the English Inhabitants, his chief Haunt being in the Land of the Messiasippi, which is for the most part a plain Country: yet I have known some kill'd on the Hilly Part of Cape-Fair-River, they passing the Ledges of the vast Mountains from the said Messiasippi before they can come near us . . . Of the wild Bull's skin Buff is made. The Indians cut the Skins into Quarters for the ease of their Transportation and make Beds to lie on. The[y] spin the Hair into Garters, Girdles, Sashes and the like, it being long and curled, and often of a chestnut or red Colour."²

Buffalo were also included among the "wild beasts of the Forest" of South Carolina about 1750,³ and a few years later it was written —

"The buffalo's are sometimes found in the mountains; but they are not near so numerous as they were a few years ago."⁴

Consequently it is easily understood where the Carolina Indians obtained their supply of buffalo hair or wool. But this was not the

¹ Adair, *op. cit.*, p. 171.

² Lawson, *History of Carolina*, London, 1714, p. 115.

³ *A Description of South Carolina*, London, 1761. Reprinted in the *Historical Collections of South Carolina*, compiled by B. R. Carroll, N. Y., 1836, vol. 11, p. 250.

⁴ *A Short Description of the Province of South Carolina, Written in the year 1763* [by Geo. Milligen], London, 1770. Reprinted in *Hist. Coll. S. Car.*, vol. 11, p. 482.

only kind of hair utilized by the women of the Carolina tribes. Lawson¹ wrote concerning them :

"The Indian womens work is to cook the Victuals for the whole Family, and to make Mats, Baskets, Girdles of Possum-Hair and such like."

And again referring to the opossum :²

"Their Fur is not esteem'd nor used, save that the Indians spin it into Girdles and Garters."

But we are unable to trace the use of buffalo hair among their northern neighbors, — the tribes of Virginia, — although it is difficult to believe they did not make use of it. Probably buffalo were seldom, if ever, seen in the tidewater area, occupied by the Algonquian tribes forming the Powhatan confederacy. But the Monacan, who claimed the country from the falls westward to the Blue Ridge, must necessarily have been quite familiar with the buffalo, and unquestionably made use of the various parts of the animal, as did the other tribes.

Rasauweck, one of the principal Monacan towns, was situated in 1608 at the mouth of the Rivanna. Another town of the confederacy evidently stood on the right bank of the same stream, a few miles north of Charlottesville, Virginia. Curiously enough, we know practically nothing of this tribe, even though it was quite populous and influential during the early days of the colony.

Byrd, in describing the buffalo, said :

"The hair growing on his Head and Neck is long and Shagged, and so Soft that it will spin into Thread not unlike Mohair. . . . Some People have stockings knit of it,"³

Buffalo undoubtedly crossed the Blue Ridge from the westward and traversed the country of the Monacans. They were probably to be found among the foothills of the Alleghanies until comparatively recent time. When Albemarle county was first occupied, about 1730, "game of every kind abounded. Traces of the buffalo still remained. A trail is said to have run up Rockfish river to the

¹ Op. cit., p. 188.

² Ibid., p. 121.

³ *The Writings of Colonel William Byrd*, New York, 1901, p. 225.

gap of that name. It is also reported that the old Richard Woods road closely followed a buffalo trail. A tract of land belonging to the Webb entry, sold in 1769, and lying on the north fork of the Rivanna, is described as adjoining Buffalo Meadow."¹

Again returning to the Mississippi, we find references to the use of the hair by that most interesting of all the lower Mississippi valley tribes — the Natchez. In a letter written to Père d'Avaugour by Père le Petit, dated New Orleans, July 12, 1730, regarding certain ceremonies and human sacrifices attending the death of a Natchez chief, occurs the following allusion to the use of a cord made of buffalo hair. This suggests the entry, No. 1215, in the old Sloane catalogue, previously mentioned.

"After having danced and sung a sufficiently long time, they pass around their necks a cord of buffalo hair, with a running knot, and immediately the ministers appointed for execution of this kind come forward to strangle them."²

Another reference to the Natchez, of a different nature though of equal interest, is to be found in the work of Du Pratz, written only a few years after the letter of Père le Petit. It reads thus:

"The infant is rocked not sideways but endways and when it is a month old they put under its knees garters made of buffalo's wool which is very soft, and above the ankle bones they bind the legs with threads of the same wool for the breadth of three or four inches. And these ligatures the child wears till it is four or five years old."³

Likewise Dumont alluded to the same tribe when he said:

"They also spin, without spinning wheel or distaff, the hair, or rather wool, of the bison, of which they make garters and bands."⁴

Lastly, we have this most interesting reference to the use of the hair by the lower Mississippi valley tribes, for among the objects collected by Iberville during his exploration along "*la rivière du Mississippi en 1700*," and which were to be sent to the court of Versailles, were "some ugly perforated beads and a skein of buffalo wool dyed and spun by the natives."⁵

¹ Edgar Woods, *Albemarle County in Virginia*, Charlottesville, 1901, p. 22.

² *Jesuit Relations*, vol. 68, p. 133.

³ Du Pratz, *History of Louisiana*, Eng. ed., London, 1763, vol. II, p. 163.

⁴ Dumont, *Mémoires Historiques sur la Louisiane*, Paris, 1753, vol. I, p. 154.

⁵ *New York State Library, Bulletin* 57, Sept., 1892, p. 335.

AM. ANTH., N. S., 11—27

During the same year Iberville made his second journey northward, penetrating as far as the villages of the Taensa, a short distance above the Natchez. It is therefore highly probable that the "skein of buffalo wool" was obtained from either the Taensa or the Natchez.

Bearing on this question, Brackenridge wrote:

"It is curious to observe, that in the instruction to Iberville by the King of France, two things were considered of the first importance, the *pearl fishery*, and the *buffalo wool*. Charlevoix observes, that he is not surprised that the first should not have been attended to, but he thinks it strange that the second should be neglected even to his time."

When La Salle was at the village of the Taensa, during the year 1682, the women wore, in addition to other ornaments, "bracelets of woven hair."² These we may safely assume to have been braided bands, made in all probability of buffalo hair. Leg bands or garters were evidently made in a similar manner.

Adair,³ in referring to the Southern Indians, said:

"The Indian females continually wear a beaded string round their legs, made of buffalo hair which is a species of coarse wool; and they reckon it a great ornament."

The French officer Bossu, during his tour through the Southern country, wrote from "Among the Allibamons the 28th of April 1759," and described the duties of the women of the tribe "as preparing their husband's meals, dressing the skins, making shoes, spinning the wool of the wild oxen, and making little baskets in which they are very well skilled and industrious."⁴ About the same time (1759) the Alibamu were living in the vicinity of Alabama and Tallapoosa rivers, about the present Montgomery, Alabama. They did not remove westward until after the close of the French and Indian war in 1763.

Bossu's reference is of interest for several reasons: First, it serves as a connecting link between the tribes of Carolina and those

² Brackenridge, *Views of Louisiana*, Pittsburgh, 1814, p. 57.

³ Tontil, *An Account of Monsieur de la Salle's Last Expedition and Discoveries in North America*, London, 1698, p. 86.

⁴ Op. cit., p. 169.

⁵ Bossu, *Travels Through that Part of North America Called Louisiana*, London, 1771, vol. 1, p. 233.

whose villages were on the banks of the Mississippi; and again it probably marks the southern limit of the use of the hair or wool of the buffalo.

Evidently the buffalo did not enter the vast forests of pine that extended for many miles northward from the Gulf, from the Mississippi to the Atlantic. This belief is sustained by the narratives of the De Soto expedition of 1539-1542, for during their years of wandering through the Southern forests the Spaniards do not appear to have seen a single buffalo.

But bison appear to have been quite numerous a little farther northward until comparatively recent times. About 160 years after De Soto's journey, Lawson knew of buffalo in the southwestern part of Carolina, and as late as 1740 they were encountered and killed near Ocmulgee river in the present state of Georgia. This was during the expedition of Oglethorpe to the Creek towns.¹

It is a curious fact that north of the Ohio, especially in the states of Ohio and Indiana, the bones of the buffalo are seldom met with on the ancient village sites, although bones of other animals are often very numerous. This would make it appear that buffalo had reached that region at quite a recent day, as they were often killed by the early settlers.

There are, however, several references in early works which, if authentic, appear to allude to the use of buffalo hair by Indians at that time living within the present limits of Ohio.

In a work written nearly three centuries ago occurs this rather ambiguous statement:

"They have also made description of great heards of well growne beasts, that live about the parts of this Lake [*Erocoise*] such as the Christian world (untill this discovery) hath not bin acquainted with. These beasts are of the bignesse of a Cowe, there flesh being very good foode, their hides good lether, their fleeces very usefull, being a kinde of wolle as fine almost as the wolls of the Beaver, and the Salvages doe make garments thereof."²

If this Lake *Erocoise* is really Lake Erie, as some suppose, we

¹ MS. Slow. 792, British Museum.

² Thomas Morton, *New English Canaan*, 1632, in *Forster's Tracts*, vol. 1, p. 66, Washington, 1838.

then have a reference to the use of the hair by some tribe or tribes in the northern part of Ohio.

The following passage may likewise refer to the same general area:

"Besides they use the hair or rather wool [of the buffalo] cut off their hides for garments and beds, and spin it into yarn, of which they make great bags, wherein they put the flesh they kill after they have cured it to bring it home to their houses; for their huntings are from the latter end of autumn, when the cattle are fat, to the beginning of Spring."¹

Now, as this was written early in the 18th century, the information may have been obtained from some earlier writings. It suggests the bags of the Kaskaskia mentioned by Père Marest in his letter to Père Germon, previously quoted.

From the numerous references quoted in the preceding pages, it appears evident that the hair or wool of the buffalo was extensively used by all the tribes living along the banks of the Mississippi, as well as by the Southern tribes occupying the territory extending from that river to the Atlantic coast.

The wool or hair was first spun or twisted into yarn preparatory to being braided into various articles. This native material was undoubtedly used until European wool was introduced by the traders, consequently the oldest Cherokee and Choctaw belts and bands, a few of which are preserved in our collections, should be considered as being purely aboriginal in all respects save the material. And some of the older examples, which we are likely to regard as being made of European wool, may actually be of buffalo wool, spun and dyed by the Indians.

It will be noticed that various references have been made to the use of red and yellow dyes by different tribes along the Mississippi, including the Illinois, Kaskaskia, Quapaw, and a tribe farther south—probably the Natchez or the Taensa. These colors, red and yellow, together with black, which is likewise mentioned as being used by the Kaskaskia, were probably the only native colors used by the Southern tribes. They are even now made by certain Indians

¹ Daniel Cox, *A Description of the English Province of Carolana*. Reprinted in *French, Hist. Coll. La.*, 2d ed., pt. II, 1850, p. 248.

in Louisiana, and utilized by them to color the material of which baskets are made.¹

II. — THE MISSISSIPPI VALLEY AND WESTWARD

The Western Indians did not use buffalo hair to the same extent, or for the same purposes, as did those east of the Mississippi; nevertheless, it was utilized by many tribes.

Although we are not able to trace a single instance of its ceremonial use, or of its entering into any of the sacred dances enacted by the tribes east of the Mississippi, yet such use of the hair by the upper Missouri valley tribes has been recorded by various writers.

Mr James Mooney, during his studies among the Kiowa, procured a large body of data bearing on this interesting subject,² but unfortunately it has not yet been published.

In describing the costume of *Kani-Sachka*, or leader of the Okipé ceremony among the Mandan, Maximilian wrote:

"His whole body is bedaubed with yellow, and on his forehead he has a wreath of bleached buffalo hair or wool hanging over the eyes."³

What the true signification of the buffalo-hair wreath may have been is not known; but we may safely assume that it possessed a symbolic meaning.

Describing the dress of *Númak-máhana* in a certain Mandan ceremony, Curtis⁴ says:

"... a wide band of brown buffalo-hair covering his forehead, collar and anklets of jack-rabbit skin, and a kilt of twisted strands of buffalo-hair completed his dress."

Buffalo hair was likewise used by the Omaha in forming the dress worn by them in their Buffalo dance. A part of their costume has thus been described:

¹ See Bushnell, *The Choctaw of Bayou Lacomb, Louisiana*, *Bulletin 48, Bur. Am. Eth.*, 1909.

² Mr Mooney's material on the subject will be included in his forthcoming memoir on *The Heraldic System of the Kiowa Indians*, to be published by the Bureau of American Ethnology.

³ Maximilian, Prince of Wied-Neuwied, *Travels in the Interior of North America*, London, 1843, p. 374.

⁴ E. S. Curtis, *The North American Indian*, vol. v, 1909, p. 30.

"Each of four men used to put the skin of a buffalo head over his head, the horns standing up, and the hair of the buffalo head hanging down below the chest of the wearer. It was over his forehead, as well as down his back, but not over his eyes. He also wore a necklace of the hair that grows on the throat of a buffalo. Two Crows says that now some wear necklaces of *ttai*¹, that is, old hair, either of a bull or that of a cow, which has been shed."²

In the Crazy dance of the Cheyenne, there were two leaders, "whose bodies and cheeks were painted with white clay, and whose ears were filled with hair shed by the buffalo, which was believed to confer strong 'medicine' powers."³

The buffalo, and likewise its hair, entered into many of the religious ceremonies and dances of the Plains tribes, and more especially of those who lived in the upper Missouri valley. The migratory habits of the buffalo, and the return of the vast herds, must have caused them to be regarded by the Indians with a certain degree of awe. Then again, many tribes relied on them for the principal supply of food, for their garments and utensils, and also for the material of which their dwellings were made; therefore it is easily understood why that animal holds such an important place in the mythology and ceremonies of the tribes of the plains.

Much information bearing on this important and interesting phase of the subject may be gathered from the forthcoming work on the Kiowa by Mr Mooney, as well as from the monographs of the different tribes by Edward S. Curtis.

Another peculiar use of the hair of the buffalo by the Plains tribes was their habit of attaching it to their own hair to cause the latter to appear the longer. This custom has been referred to by many travelers and writers.

"Though all the far western Indians wear their hair long, the Comanche seems to take most pride in the voluminousness of his 'tresses,' and the length of his queue, which is sometimes eked out with buffalo or other hair, till its tip reaches the ground, and is bedaubed with gum, grease and paint, and decorated with beads and other gewgaws."⁴

¹ J. O. Dorsey, *Omaha Sociology*, *Third Rep. Bur. Am. Eth.*, p. 348.

² Mooney, *Ghost Dance Religion*, *Fourteenth Rep. Bur. Am. Eth.*, p. 1033.

³ Josiah Gregg, *Commerce of the Prairies*, New York, 1844, vol. II, p. 311.

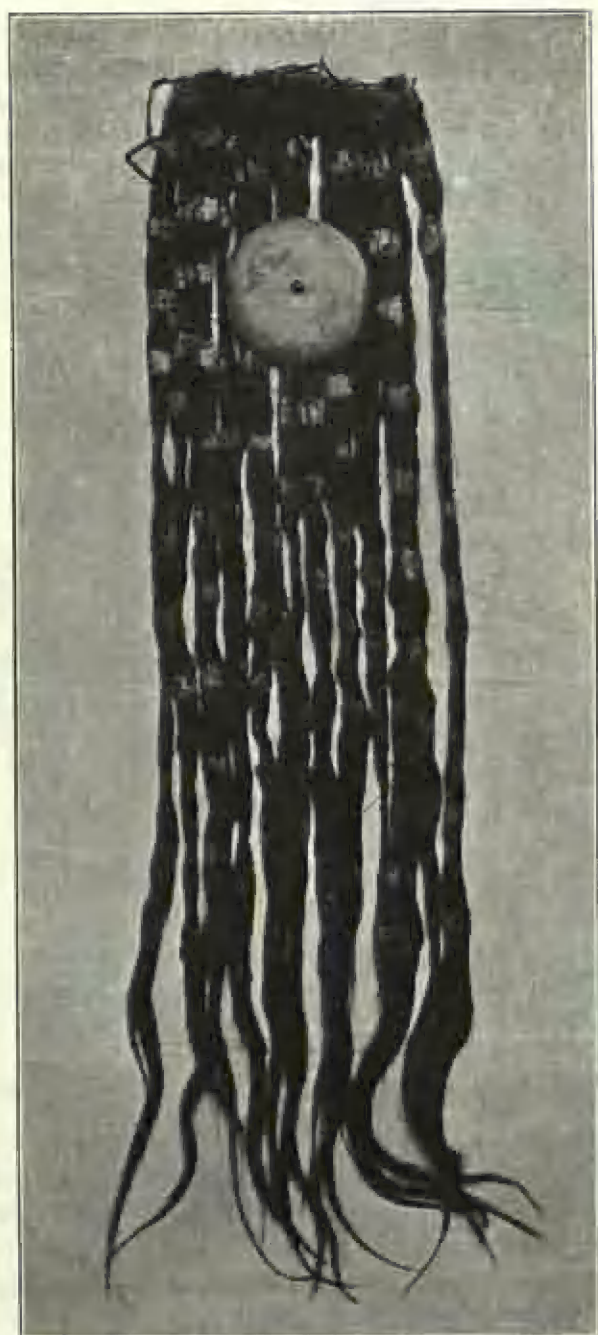


FIG. 76. — Head-dress of buffalo hair. (U. S. National Museum, No. 167,145.)

And again we find this rather general statement :

"The central and northern Plains tribes part their hair in the middle, and confine it in two long tails, one over, or just behind, each ear. These pieced out with buffalo or horse hair to make them longer, are wrapped with a long and narrow piece of cloth, or beaver skin, cut in strips, the folds of which furnish receptacles of which the Indians make great use."¹

An excessively rare head-dress formed of buffalo hair is preserved in the United States National Museum (no. 167,145). It is



FIG. 77. — Drawing by Friedrich Kurz, 1851, showing Hidatsa head-dress.

represented in figure 76. This object consists of thirteen strands of hair, each of which is about 32 inches in length. Each strand is formed of a quantity of hair held together by many small masses of gum, to which white clay still adheres. The thirteen strands are attached to a narrow band of beaver skin, to the ends of which are

¹ Col. R. I. Dodge, *Our Wild Indians*, Hartford, 1882, p. 304.

fastened narrow thongs: these probably served to secure it to the head of the wearer. A metal disk, four inches in diameter, serves as an additional ornament, being attached near the top of the head-



FIG. 78. — Shoshoni head-dress of buffalo hair. Collected on the Wind River reservation, Wyoming, 1901; now in the American Museum of Natural History, New York.

dress. It is to be regretted that nothing definite is known concerning the history of this specimen.

The resemblance between this head-dress and that worn by one of the horsemen shown in figure 77 is quite remarkable. This sketch, by the Swiss artist Friedrich Kurz, was made at the Hidatsa village at Fort Berthold, on the upper Missouri, in July, 1851.¹ On August 1 of that year Kurz entered in his journal:

"The men in this village [at Fort Berthold] devote more attention to ornaments and fine appearance than the girls; the former devote especial care to their hair, and even attach borrowed hair to their own in long streamers; but this is done only by men who count 'coup.'"

A somewhat similar example was obtained from the Shoshoni on the Wind River reservation, Wyoming, in 1901 (fig. 78), and is now in the American Museum of Natural History, New York City (no. 50-2344). It is formed of numerous cords of buffalo wool, held together by a peculiar gum. The extreme length is about 26 inches, while the width of the top is 6½ inches. The long strands of wool are attached to a narrow band of beaver skin, to each end of which is fastened a tuft of buffalo hair dyed red.

Writing of the Western tribes in general, but of the "Shiennes" (Cheyenne) in particular, it was said:

"They even regard long hair as an ornament; and many wear false hair fastened to their own by means of an earthy matter, resembling red clay, and depending, in many instances, particularly in the young beaux, to their knees, in the form of queues, one on each side of the head, variously decorated with ribbon-like slips of red and blue cloth, or coloured skin. Others, and by no means an inconsiderable few, had collected their long hair into several flat masses of the breadth of two or three fingers, and less than the fifth of an inch in thickness, each one separately annulated with red clay, at regular intervals."

The same author, in referring to the Teton Sioux, wrote:

"The hair is in great profusion, and is thrown upon the back in long rolls, but upon close inspection the greater portion of it is perceived to be false hair artificially attached to their own, the points of junction

¹ Other sketches by this artist appear in vol. 10, no. 1, of this journal.

² Edwin James, *An Account of an Expedition* (By Maj. Stephen H. Long), Philadelphia, 1823, vol. II, p. 180.

being indicated by small masses of clay with which the attachment is effected."

Maximilian wrote of the Minnetaree, or Hidatsa, near Fort Berthold, the same as described by Kurz:

"They wear their hair in long flat braids, hanging down upon the back like the Mandans; sometimes it is plastered over with clay, and not unfrequently lengthened by gluing false locks to it."¹

And in another place he said:

"They [the Mandan] encourage the growth of their hair, and often lengthen it by artificial means."²

The same custom was observed among the Arikara, by whom the separate locks of hair were held together by "a substance resembling putty."³

But it remained for Catlin to suggest a plausible explanation of the reason for this peculiar custom of lengthening the hair. He says:

"It is a common custom amongst most of these upper tribes, to splice or add on several lengths of hair, by fastening them with glue; probably for the purpose of imitating the Crows, upon whom alone Nature has bestowed this conspicuous and signal ornament."⁴

Another method of dressing the hair was to arrange it in a single long braid, often artificially lengthened and decorated with metal disks or other objects. Describing the Sioux at Fort Pierre, Maximilian⁵ said:

"These Indians let their hair grow as long as possible, and plait it behind in a long tail, which is ornamented with round pieces of brass, and often hangs down to a great length."

Again, we find other tribes following the same practice:

"The Comanches and Kiowas comb the hair back from the face and plait it, with additions, in a single long tail, ornamented with silver or plated buckles, and often reaching nearly to the ground."⁶

¹ Maximilian, *op. cit.*, p. 396.

² *Ibid.*, p. 336.

³ Brackenridge, *Views of Louisiana*, Pittsburgh, 1814, p. 252.

⁴ Catlin, *Letters and Notes on the Manners, Customs and Conditions of the North American Indians*, Phila., 1860, p. 92.

⁵ *Op. cit.*, p. 158.

⁶ Dodge, *Our Wild Indians*, Hartford, 1882, p. 304.



FIG. 79. — Buffalo-hair head-dress in the U. S. National Museum.

Fortunately a specimen (fig. 79) answering this description perfectly is preserved in the National Museum. It is marked "Ta-a-wash Indians, Green River, Capt. Gunnison 1879." The extreme length of the piece is about 37 inches. It is made of buffalo hair, tightly plaited. Attached to it are eight german-silver disks, and near the lower end are six old-style army buttons. No other example of this type of head-dress can be traced.

Capt. Jonathan Carver¹ mentions silver ornaments as used by the Sioux women on their hair. Beltrami,² likewise speaking of the Sioux, alludes to "paste buckles" attached to their hair. These are described as having been obtained from traders; but in all probability he saw only the small masses of clay or gum already mentioned.

Quite an interesting reference, probably to the Indians of the upper Mississippi valley, is found in that little-known work by D'Eres,³ which reads:

"The hair is plucked from the head, except a small portion on the back part the bigness of a man's hand; the hair thus left on is permitted to grow to

¹ *Travels in North America*, Phila., 1796, p. 147.

² *A Pilgrimage in Europe and America*, London, 1828, vol. II, p. 182.

³ Charles D. R. D'Eres, *Memoirs*, Exeter, N. H., 1800, p. 98.



CHEYENNE HEAD ORNAMENT OF BUFFALO HAIR
(U. S. National Museum, No. 165,948)

a great length, and ornamented with silver broaches and feathers of various colours, from the crown of the head to the extremity of the hair."

An exceedingly interesting head ornament in the National Museum (no. 165,948) is shown in plate XIX. It was collected among the Cheyenne, and is formed of a bunch of buffalo hair in natural color and a tuft of eagle down dyed green. The thong attached to the down is not dyed, but the larger one, binding the hair, is colored red. A small bag of "medicine" forms part of the ornament and is visible near the top of the specimen. The extreme length is about ten inches. Unfortunately nothing definite is known of the source of this rare piece.

Halters and reatas were made of twisted cords of buffalo hair. They were evidently made and used by all the tribes of the plains. Catlin,¹ writing of the tribes in general, says:

"The hair from the head and shoulders [of the buffalo], which is long, is twisted and braided into halters."

The Pawnee,² and likewise the Shoshoni,³ made halters of buffalo hair. And farther north the same custom was followed, for it is stated:

"The Assiniboina, Rapid Indians [Atsina], Blackfeet and Mandans, together with all the other Indians who inhabit a plain country always perform their journeys on horseback . . . They do not often use bridles but guide their horses with halters made of ropes which are manufactured from the hair of the buffaloe which are very strong and durable."*

Several such halters are in the National Museum. One example, made by the Comanche and collected by Dr E. Palmer at Ft Cobb, Indian Territory, in 1865 (no. 6922), is illustrated in figure 80. This is an unusually heavy piece, being composed of four cords, each of which is formed of two twisted strands. Many similar though lighter ones are in the collection, including a "hair rope" from New Mexico, collected by Lieut. A. W. Whipple (no. 1442). This is composed of six cords, each of two strands; it is thirteen feet in length, but quite thin.

¹ Op. cit., p. 399.

² J. T. Irving, *Indian Sketches*, Phila., 1835, vol. II, p. 156.

³ *Original Journals of Lewis and Clark*, New York, 1905, vol. III, pp. 30, 31.

* D. W. Harmon, *Journal*, Andover, 1820, p. 336.

An example collected from the Oto of Nebraska by J. W. Griest (no. 22,448), is braided square (sinnet); its length is about fourteen

feet. In addition there are several small but quite long cords in the collection.

Blankets also appear to have been made of buffalo hair or wool. Writing of the Osage and neighboring tribes, Hunter says:

"The hair of the buffalo and other animals is sometimes manufactured into blankets; the hair is first twisted by hand and wound into balls."¹

This agrees with a description of the work of an old man among the Arikara, written in 1811:

"I was told one day, of an old Indian who was making a blanket; I immediately went to see him. To my surprise, I found an old man, perfectly blind, seated on a stool before a kind of frame, near which were drawn coarse threads, or rather twists of buffaloe wool, mixed with wolf's



FIG. 80. — Comanche halter of buffalo hair. (U. S. National Museum, No. 6922.)

hair; he had already made about a quarter of a yard of a very coarse, rough cloth. He told me that it was the first he had attempted and that it was in consequence of a dream, in which he thought he had made a

¹ John D. Hunter, *Memoir of a Captivity*, London, 1824, p. 289.

blanket like those of the white people. Here are the rudiments of weaving."¹

Although it is not improbable that this was the first attempt of that particular individual to make a blanket, it is difficult to believe it to have been the first effort by a member of the Arikara tribe, although, of course, tanned buffalo hides served the purpose of blankets among all the Indians of the plains.

A rare old blanket from the Wilkes collection, probably made by the Nez Percés, and now in the National Museum (2124), is formed partly of a brown hair, which is evidently buffalo.

Another example of old blanket, in the same collection, formed part of a Cheyenne scaffold burial. It is made in part of a brown wool which appears to be that of buffalo. There is little doubt that the blanket was made by Indians.

One of the earliest reference we have to the use of buffalo hair alludes to the making of rug-blankets, but whether made by Spaniards or Indians it is difficult to say. It is found in Benavides' *Memorial*, written in 1630:

"The hair [*pele*] is not like that of our cattle but curly like very fine fleece. Of it are made very good rugs."²

During the winter months the Northern Indians would place a quantity of buffalo hair in their moccasins to add warmth.³ Other tribes made similar use of moose or caribou hair.⁴ Something of the same nature was mentioned by Radisson⁵ as early as 1661 or 1662, near Lake Superior.

Buffalo hair was also used by the Sioux and other plains tribes to stuff balls and dolls for the children. Many examples of these are in the National Museum. Catlin, referring to the Mandan, mentions "their fine white saddle of doe's-skin, which is wadded with buffalo's hair."⁶ A bunch of buffalo hair also served as a brush for applying paint in certain ceremonies among the Teton Sioux.⁷

¹ Brackensridge, *op. cit.*, p. 253.

² In *Land of Sunshine*, Los Angeles, 1901, p. 43.

³ D. W. Harmon, *op. cit.*, p. 416.

⁴ Alex. Mackenzie, *Voyage from Montreal in the Years 1789-1793*, New York, 1802, p. 85.

⁵ Peter Esprit Radisson, *Voyages*, Prince Society, Boston, 1885, p. 212.

⁶ Catlin, *op. cit.*, p. 186.

⁷ Edward S. Curtis, *North American Indian*, III, 1908.

When the early Spanish explorers first entered the plains of the Southwest, they marveled at the vast herds of buffalo which they encountered in their marches, and from the natives they learned to what extent the buffalo served them in supplying the many necessities of life. In one early narration it is written:

"The Riches of Quivira consist in their Oxen, whose Flesh is the ordinary Food of the Inhabitants, their Skins serve them for cloathing, their Hair for Thred, of their Nerves and Sinews they make cords and Bow-strings; of their Bones they make Nails and Bodkins; of their Horn, Trumpets; of their Bladders, Vessels to keep water in, and their dung when dried serves for fire."¹

A like account is given with reference to the Tonkawa Indians of Texas:

"Beside their meat, it [the buffalo] furnished them liberally what they desire for conveniences. The brains are used to soften skins, the horns for spoons and drinking cups, the shoulder-blades for *casas* [houses?] and to clear the ground, the tendons for thread and bow-strings, the hoof to glue the arrow-feathering. From the tail-hair they make ropes and girths; from the wool, belts and various ornaments. The hide furnishes saddle and bridle, tether ropes, shields, tents, shirts, footwear, and blankets to protect from the cold."²

A similar description is found in Gomara's history; and in the *Relación Postrera de Sivola*,³ written in 1541, occurs another account of the buffalo and of its great value to the natives. Among the various uses to which they put the different parts of the animal it was stated that: "With the skins they make their houses, with the skins they clothe and shoe themselves, of the skins they make rope, and also of the wool." . . . Here we have the earliest reference to the ropes or reatas which, as has already been shown, were probably used by all the Western tribes.

The various references and quotations brought together in the

¹ Robt. Morden, *Geography Rectified, or a Description of the World*, 3d ed., London, 1693, p. 586.

² Mezères MS., ca. 1770-78, cited by Dr Herbert E. Bolton of the University of Texas.

³ Hakluyt, *Voyages*, vol. III, London, 1600, p. 382.

⁴ Winship, The Coronado Expedition, 1540-1542, *Fourteenth Rep. Bur. Am. Eth.*, p. 570.

preceding pages will suffice to show how universal was the use of the hair or wool of the *Bison americanus* among the native tribes of North America. Many references to the different uses of the hair by the widely separated tribes have undoubtedly been overlooked, but enough has been said to show that it was evidently utilized for one purpose or another by a majority of the tribes from the Atlantic coast to the Rocky mountains.

UNIVERSITY, VIRGINIA



FIG. 81. — Buffalo, from an unpublished drawing by Friedrich Kurz.

THE LANGUAGE OF THE PIRO

By JOHN RUSSELL BARTLETT

INTRODUCTION BY F. W. HODGE

ALTHOUGH known to history since the year 1540, few of our Indian tribes of which representatives yet remain are less known at the present time than the Piro of the Rio Grande below El Paso, Texas.

In the early part of the seventeenth century the Piro, who have been classed as belonging to the Tanoan linguistic family, consisted of two divisions, one inhabiting the Rio Grande valley from the present town of San Marcial in Socorro county, New Mexico, northward to within about fifty miles of Albuquerque, where the Tigua settlements began; the other division, sometimes called Tompiros and Salineros, occupying the desert stretch east of the river in the vicinity of the salt lagoons, or salinas, where it bordered the eastern group of Tigua settlements on the south. The western or Rio Grande branch of the Piro was visited in 1540 by members of Coronado's expedition, in 1580 by Chamuscado, in 1583 by Espejo (who found them occupying ten villages along the river and in others near by), in 1598 by Oñate, and in 1621-1630 by Fray Alonso Benavides who relates that they were settled in fourteen pueblos along the river.

The establishment of missions among the Piro began in 1626. In that year the most southerly church and monastery in New Mexico were built at Senecú by Arteaga and Zúñiga (to whom are attributed the planting of the first vines and the manufacture of wine in this region), and during the same year missions at Sevilleta, Socorro, and probably also at Alamillo were founded. It is not improbable that the Piro of the Rio Grande, although said to number 6,000 in 1630, had been already seriously harrassed by the Apache, for Sevilleta had been depopulated and burned in consequence of intertribal wars prior to the founding of the missions, and

was not resettled until the missionaries arrived. Moreover, the fourteen villages along the Rio Grande occupied by the Piro in 1630 were reduced to four half a century later. "This was due not only to the efforts of the missionaries to gather their flock into larger pueblos," says Bandelier, "but also to the danger to which these Indians were exposed from the Apaches of the 'Perrillo' and the 'Gila,' as the southern bands of that restless tribe were called."¹

The area occupied by the Piro of the Salinas, extended from the pueblo of Abo southeastward to and including the pueblo of Tabir , commonly but improperly called "Gran Quivira," a distance of about 25 miles. The habitat of the eastern Piro was even more desert in character than that of the eastern Tigua, which bounded it on the north, for the Arroyo de Abo, on which Abo pueblo was situated, is the only perennial stream in the region, the inhabitants of Tabir  and Tenab  depending entirely on the storage of rainwater for their supply. In addition to the three pueblos named, Bandelier has concluded that the now ruined villages known by the Spanish names Pueblo Blanco, Pueblo Colorado, and Pueblo de la Parida were probably among the eleven inhabited settlements of the Salinas seen by Chamuscado in 1580, but at least three of this number were occupied by the Tigua. Juan de O ate, in 1598, also visited the pueblos of the Salinas, and to Fray Francisco de San Miguel, a chaplain of O ate's force, was assigned the Piro country as part of his mission district. The headquarters of this priest being at Pecos, many miles to the northward, it is not likely that much active mission work was done among the Piro during his incumbency, which covered only about three years. The first actual missions among the Piro pueblos of the Salinas were established in 1629 by Francisco de Acevedo at Abo and Tabir , and probably also at Tenab ; but before the massive-walled churches and monasteries were completed, the village dwellers of both the Salinas and the Rio Grande suffered so seriously from the depredations of the Apache, that Senec  on the Rio Grande, as well as every pueblo of the Salinas, was deserted before the great Pueblo insurrection of 1680. Prior to the raid on Senec  by the Apache in 1675, six of the inhabitants of that village were executed

¹ See Bandelier in *Papers of the Archaeological Institute of America*, American Series, IV, 1892, pp. 236-253, 268-292.

for the murder of the alcalde-mayor and four other Spaniards. Probably on account of the fear with which the Spaniards were known to be regarded by the Piro after this occurrence, they were not invited by the northern Pueblos to participate in the revolt against the Spaniards in 1680; consequently when Otermin, the governor, retreated from Santa Fé to El Paso in that year, he was joined by nearly all the inhabitants of Socorro, Sevilleta, and Alamillo. These, with the former occupants of Senecú, who since the destruction of their village by the Apache had resided at Socorro, were afterward established in the new villages of Socorro, Texas, and Senecú del Sur ("Senecú of the South") in Chihuahua, on the Rio Grande below El Paso, where their remnant still survives. In attempting to reconquer New Mexico in the following year, Otermin caused Alamillo to be burned, because the few remaining inhabitants fled at his approach. Only three families remained at Sevilleta when the Spaniards retreated, but these had departed and the pueblo was almost in ruins on their return in 1681.

The entire Piro division of the Tanoan family probably numbered about 9,000 early in the seventeenth century. Now only about sixty individuals are known to survive, and although these still retain a shadow of their aboriginal customs, they are "Mexicans" to all intents and purposes, and perhaps only one or two have any remembrance of their native language.¹

In October, 1852, John Russell Bartlett, of the international commission to determine the boundary between the United States and Mexico, visited the Piro and recorded a vocabulary of their language, from the original of which, preserved in the archives of the Bureau of American Ethnology at Washington, the accompanying copy is reproduced. The vocabulary has not hitherto been published; indeed the only specimen of the Piro language previously printed consists of the Lord's Prayer, which appears in the *Colección Polidíomica Mexicana que contiene la Oración Dominical* (Mexico, 1860, page 36), reprinted, with some errors, in Bancroft, *Native Races*, III, 714, 1886.² The Prayer follows:

¹ See Fewkes, The Pueblo Settlements near El Paso, Texas, *American Anthropologist*, IV, 57-75, Jan.-Mar., 1902.

² A new edition of the *Colección*, "en 68 idiomas y dialectos," was published by the Sociedad Mexicana de Geografía y Estadística, Mexico, 1888 (31 pages).

Quitatác nasaul e yapolhua tol húy quiamgiana mi quiamnarínú Jaquíé mu gilley nasamagui hikiey quiamsamaé, mukiataxám, hikiey, hiquiqui-amo quia inae, huskilley nafoleguey, gimoréy, y apol y ahuleý, quialiey, nasan e pomo llekéý, quiale mahinnague yo sé mahi kaná rrohoý, se teman quiennatchui mu killey, hani, emolley quinaroy zetasi, na san quianatehueý pemcihipompo y, qui solakuey quifollohipuca. Kuey maihua atellan, folliquitey. Amen.

Bartlett's vocabulary is prefaced with a note on the language of the Piro that is not without interest. It is here printed verbatim, together with the vocabulary, since this material is almost all we have pertaining to the linguistics of a tribe that played such an important part in the early history of our Southwest.

LANGUAGE OF THE PIROS

This vocabulary was taken down as given by two Indians, the principal of the tribe residing in the pueblo or town of Sinecu [Senecú], a few miles below El Paso del Norte, on the western bank of the Rio Grande. Their names were Hieronymo Peraza and Marcos Alejo;¹ the latter having received sufficient education to read in Spanish. The former was an intelligent man, though uneducated. Both were christianized Indians as all are who live in the Pueblos or towns.

These men manifested much interest in our enquiries and readily answered all my questions, relative to their history, manners and customs; and particularly to their language. In every instance, each pronounced the word as I gave it to them in Spanish. This was repeated several times I (*sic*) order that I might get the true sound, which I pronounced and repeated until the Indians were satisfied and could detect no variation in my pronunciation and theirs. The word was then entered in the vocabulary, and again pronounced according to my orthography. In many instances I sounded each syllable separately that no portion of it should be lost. When the list was completed, I began and pronounced each Indian word, to see if they could recognize it, which in most cases they were able

¹ Fewkes mentions Augustin Allegro (cacique), Pablo Allegro (governor), Victoriana Pedraza (war-chief), Casimera Pedraza, and Dolores Allejo among the survivors of Senecú in 1901.

to do, by giving the corresponding word in Spanish. Frequently they would exclaim, "*claro, muy claro*," clear, very clear, when I enunciated a word to their satisfaction, and on the whole they seemed much pleased in having their language recorded. They observed that with this vocabulary we might discover some of their tribe in other parts of the country, of whose existence they knew nothing; and one of them said, that, if he could only read, he would take down the English language as we had theirs, and so learn it.

Believing that many of the long words were compounds, I endeavoured to analyse them, by asking the meaning of separate syllables, or portions of certain words, but they could give no definition to the parts. Nevertheless, I entertain the belief that many of the long words are compounded of several, as in the word for mosquito, *quen-lo-a-tu-ya-i*; which if I (*sic*) could be analysed would probably express the idea of *the insect that bites*. The names of colours white, black, yellow, blue etc., begin with *na*, which probably may denote colour; but on making the enquiry what it meant, or what was the word for colour, I could get no information.

A peculiarity which characterises the Indian languages of North America seemed to prevail in that of the Piro, vizt that the women pronounced words different from the men, or that there was what is known as the women's language. In several instances when questioning the two Indians alluded to, they spoke of the 'women's language,' and gave the word required in both the men's and women's language. In these examples, however, the only difference seemed to be that one was more strongly aspirated than the other, or a slight difference was perceptible in the accent. It was no greater than the pronunciation of the English language by educated and uneducated people.

The aspirated sounds in the Piro language are very slight, so much so that they are scarcely perceptible in the enunciation of one of the men. The same may be said of the nasals, which are not only few in number, but very slight in utterance. No 152 — three, *môn-tu*; — and 168, to drink, *ta-sôn-yau*, are examples, and the only ones in the vocabulary of two, hundred [one hundred and seventy-five] words. The sound in these is precisely that of the French, *mon*, and *son*. In gutturals, which abound in most of the

Indian languages, the Piro seems deficient as far as can be judged from the vocabulary before us.

Notwithstanding these deficiencies which so strongly characterize the whole family of Indian languages, I am inclined to believe that in former times, when the language was exclusively spoken by the tribe, it possessed more aspirated, nasal and guttural sounds, and that they were more strongly marked than at present. But as it is now limited to a very small number, who use the Spanish as freely as their own, these sounds have become softened and more allied to that language.

The almost universal termination of *é*, is peculiar. When this appears, it is strongly accented, like the full French accented *é*. *b* does not appear, and *v* but once in the vocabulary, vizt, in the 60th word, *wa-i-vo-na-é* (morning); and in this it was difficult to say, whether the sound was nearer the *v*, or *w*. *R* appears but twice in our vocabulary i. e., in the 42d word, *hron-na-é* (house), and the 56th, *hron-é* [*sic*] (day). In both of these the sound was distinct. Nos. 56, *pipa-hem*, pipe (Span.); 81, *na-ista-é* (Span. isla, island); 108, *pa-lo-ma-é* (Span. paloma, pigeon); 31, *el-en-cuerpo-é*, (Span. cuerpo, body), are derived from the Spanish. In several instances an apostrophe follows a letter. In these examples it was difficult to distinguish to which syllable the apostrophized letter belonged, and as it seemed midway between them, the sound seemed better expressed by the manner in which it has been given.

PIRO VOCABULARY

1. Man	<i>o-ye</i>	14. Indian ;	
2. Woman	<i>su-n' é</i>	people	<i>a-tsi-hem</i>
3. Boy	<i>at-sam-é</i>	15. Head	<i>pi-nem</i>
4. Girl	<i>yool-é</i>	16. Hair	<i>sa-na-é</i>
5. Infant, child	<i>yu-wa-né</i>	17. Face	<i>iso-hem</i>
6. Father, my	<i>el-em-ta-ta-é</i>	18. Forehead	<i>tsi-kia-nem</i>
7. Mother, my	<i>et-em-kia-é</i>	19. Ear	<i>tah-so-hem</i>
8. Husband, my	<i>el-a-man-tsal-a-é</i>	20. Eye	<i>tsi-hio-né-que</i>
9. Wife, my	<i>el-a-a-m' sun-é</i>	21. Nose	<i>fu-é</i>
10. Son, my	<i>el-a-m' eu-t-é</i>	22. Mouth	<i>sa-na-é</i>
11. Daughter, my	<i>el-a-m' eu-t-sun-é</i>	23. Tongue	<i>mi-n' é</i>
12. Brother, my	<i>el-a-m' pu-pu-é</i>	24. Teeth	<i>we-yé</i>
13. Sister, my	<i>el-a-m' qu-qu-é</i>	25. Beard	<i>tia-ju-hé</i>

26. Neck	<i>yout-wa-hem</i>	69. Rain	<i>na-a-wdan</i>
27. Arm	<i>hià-hem</i>	70. Snow	<i>pan-wdan</i>
28. Hand	<i>ma-nem</i>	71. Hail	<i>an-y' le-sol. è</i>
29. Fingers	<i>màn-kio-né</i>	72. Fire	<i>fa-yé</i>
30. Nails	<i>man-sa-si-hé</i>	73. Water	<i>à-é</i>
31. Body	<i>el-en-cuerpo-è</i> [Sp.]	74. Ice	<i>a-tsi-é</i>
32. Leg	<i>pe-sa-hém</i>	75. Earth, land	<i>na-f' ol-é</i>
33. Foot	<i>a-ném</i>	76. Sea	— — —
34. Toes	<i>an-kio-né</i>	77. River	<i>a-sa-é</i>
35. Bone	<i>ou-an-ém</i>	78. Lake	<i>a-tsi-é</i>
36. Heart	<i>pe-n' é</i>	79. Valley	<i>ki-a-yo-nà-é</i>
37. Blood	<i>u-hém</i>	80. Hill,	
38. Town, village	<i>tai-hone-a-é</i>	mountain	<i>ho-hem</i>
39. Chief	<i>tai-k' hem-tsa-é</i>	81. Island	<i>na-isla-é</i> [Sp.]
40. Warrior	<i>ah-to-hém</i>	82. Stone	<i>ia-wé</i>
41. Friend	<i>pi-ye-é</i>	83. Salt	<i>so-an'-é</i>
42. House	<i>hron-na-é</i>	84. Iron	<i>po-ya-o-nà-é</i>
43. Kettle	<i>si-la-yem</i>	85. Tree	<i>i-sa-ké</i>
44. Bow	<i>hui-lé</i>	86. Wood	<i>sa-hé</i>
45. Arrow	<i>sa-wém</i>	87. Leaf	<i>a-o-lé</i>
46. Axe, hatchet	<i>ha-tsa-é</i> [Sp.]	88. Bark	<i>hia-yem</i>
47. Knife	<i>tse-é</i>	89. Grass	<i>son-é</i>
48. Canoe, boat	<i>kia-naa-hem</i> [Sp.]	90. Pine	<i>huan-ém</i>
49. Shoes	<i>kin-pi-é</i>	91. Flesh, meat	<i>ta-we</i>
50. Pipe	<i>pipa-hem</i> [Sp.]	92. Dog	<i>tsu-é</i>
51. Tobacco	<i>sa-yé</i>	93. Buffalo	<i>yo-tson-lé</i>
52. Sky, heaven	<i>ya-pot-ya-wé</i>	94. Bear	<i>kio-é</i>
53. Sun	<i>pu-é</i>	95. Wolf	<i>kia-lé</i>
54. Moon	<i>a-é</i>	96. Deer	<i>pi-ye</i>
55. Star	<i>a-kio-sa-é</i>	97. Elk	<i>a-hoom-é</i>
56. Day	<i>hrom-é</i>	98. Beaver	<i>a-ya-é</i>
57. Night	<i>no-é</i>	99. Tortoise	<i>a-tsal-i-é</i>
58. Light	<i>na-moe-é</i>	100. Fly	<i>a-fu-ya-é</i>
59. Darkness	<i>na-mo-hion-é</i>	101. Mosquito	<i>quen-lo-a-tu-ya-é</i>
60. Morning	<i>wa-i-vo-na-é</i>	102. Snake	<i>pe-tsun-to-yan-é</i>
61. Evening	<i>que-na-é</i>	103. Bird	<i>tsi-ki-é</i>
62. Spring	<i>ha-le-pu-na-é</i>	104. Egg	<i>a-we-y' é</i>
63. Summer	<i>ha-leep-é</i>	105. Feathers	<i>yo-né</i>
64. Autumn	<i>tu-la-é</i>	106. Wings	<i>yo-na-hé</i>
65. Winter	<i>tu-la'-hel-ki-é</i>	107. Duck	<i>a-pém' é</i>
66. Wind	<i>hua-é</i>	108. Pigeon	<i>pa-lo-ma-é</i> [Sp.]
67. Thunder	<i>kuen-sil-u-é</i>	109. Fish	<i>pu-é</i>
68. Lightning	<i>kien-lo-é</i>	110. Salmon	— — —

111. Sturgeon	— — —	147. To-morrow	<i>hue-i-dé</i>
112. Name	<i>a-kia</i>	148. Yes	<i>hoi-y'è</i>
113. Affection	<i>ma-kia-pe-tôw</i>	149. No	<i>hen-kio-yé</i>
114. White	<i>na-a-tsay-i</i>	150. One	<i>eu-i-yô</i>
115. Black	<i>na-se-en-é</i>	151. Two	<i>wé-yu</i>
116. Red	<i>na-u-é</i>	152. Three	<i>môn-tu²</i>
117. Blue	<i>na-tseu-é</i>	153. Four	<i>we-no</i>
118. Yellow	<i>na-sa-wa-é</i>	154. Five	<i>an-tao</i>
119. Green	<i>na-tseu-se-é</i>	155. Six	<i>ma-seu</i>
120. Great	<i>ma-wé</i>	156. Seven	<i>tsu-wuh</i>
121. Small	<i>hia-wé</i>	157. Eight	<i>hui-li-yá</i>
122. Strong	<i>ma-tse-é</i>	158. Nine	<i>hua-weh</i>
123. Young	<i>a-tsem-i</i>	159. Ten	<i>tên-yo</i>
124. Old	<i>o-i-sa-é</i>	160. Eleven	<i>tên-u-s</i>
125. Good	<i>ma-na-su-o-é</i>	161. Twelve	<i>tên-wé-yu</i>
126. Bad	<i>ma-na-foi-ye</i>	162. Twenty	<i>tên-te-yo</i>
127. Handsome	<i>ma-wé</i>	163. Forty	<i>we-na-te-leo</i>
128. Ugly	<i>ma-fo-yé</i>	164. One hundred	<i>tên-na-te-leo</i>
129. Alive	<i>wa-é</i>	165. Four	
130. Dead	<i>pi-wé</i>	hundred	<i>wen-tên-na-ta-leo</i>
131. Cold	<i>ma-na-ya-é¹</i>	166. One	
132. Warm	<i>ma-na-si-lé²</i>	thousand	<i>tên-yo-tên-na-ta-leo</i>
133. I	<i>na-o-é</i>	167. To eat	- - -
134. Thou	<i>e-hi-é</i>	168. To drink	<i>ta-sôn-yân</i>
135. He	<i>wa-é</i>	169. To run	<i>ha-me-wé</i>
136. We	<i>na-sâam</i>	170. To dance	<i>hi-we-éé</i>
137. Ye	<i>na-sa-i</i>	171. To sing	<i>ha-ya-ta-hôl</i>
138. They	<i>wa quay</i>	172. To sleep	<i>ha-ya-tu-mô</i>
139. This }		173. To speak	<i>ha-tse-sa-yoi</i>
140. That }	<i>ia-hêm</i>	174. To see	<i>hin-mo-oi</i>
141. All	<i>ho-te-mé</i>	175. To love	<i>ta-pe-tao</i>
142. Many,		176. To kill	<i>kic-hu-nao</i>
much	<i>ma-o-wé</i>	177. To sit	<i>hel-en-é</i>
143. Who	<i>ta-on</i>	178. To stand	<i>hel-wi-ên</i>
144. Near	<i>he-o-pé</i>	179. To go	<i>hel-o-fo-yé</i>
145. To-day	<i>hió-sé</i>	180. To come	<i>na-hel-e-yao</i>
146. Yesterday	<i>tse-mô</i>		

¹ much cold. ² very warm. ³ *môn-ta*. The *n* with a dash under it is meant to denote a slightly nasal sound, as the same syllable would be pronounced in French.

THE EXCAVATIONS AT TYUONYI, NEW MEXICO, IN 1908.¹

BY EDGAR L. HEWETT

IT will be of interest to know that the work of the School of American Archæology in the Rito de los Frijoles during the summer of 1908 was a continuation of the activities of the Archæological Institute of America commenced in that region a quarter of a century ago. The first work of the Institute in American archeology was the sending of Mr A. F. Bandelier to the Southwest in 1881. The results of his activities there have been of the greatest service to all who have followed him in that region. I take especial pleasure at this time in acknowledging my indebtedness to the distinguished scholar who blazed the way for all that the rest of us have been permitted to do. His reports are indispensable guide-books to the archeology of the Southwest. Bandelier was the Pausanias of the Rio Grande valley.

In this paper I shall endeavor, by extensive pictorial treatment, to enable the reader to see something of the environment which nurtured the peculiar type of culture that arose in this portion of the Southwest in pre-Spanish times.

I desire first to call attention to the character of the country by which the Rito de los Frijoles is surrounded. The Pajarito plateau, lying between the Jemez mountains and the Rio Grande valley, is covered by a blanket of volcanic tufa which has been gashed into thousands of fragments by ages of torrential erosion. Those detached masses have been further sculptured by the winds into castle-like battlements and the walls honeycombed with natural caves. Looking across this plateau from any eminence, the eye sees hundreds of these castellated buttes, geological islands, rising up from a plain that has been denuded of all other portions of this

¹ Read at the annual meeting of the Archæological Institute of America, at Toronto, Canada, December 30, 1908.

covering. These masses present sheer precipices on the southern exposure of from fifty to five hundred feet in height, rising above a sloping talus which gives down to the dry arroyos of the cañon bottom.

Starting down the Río Grande from a point opposite the Tewa Indian pueblo of San Ildefonso, let us notice the geological structure of the rim of this plateau as it is presented to the observer in passing down White Rock cañon. In places enormous masses stand out against the horizon line, along the base of which we find the cobblestone and gravel of the shore-line of the Miocene lake that once filled the basin north of Santa Fé, known as the Española valley. Prior to the establishment of the Río Grande drainage this basin contained lakes or marshes covering an area of perhaps fifty miles long by twenty in breadth. In the Santa Fé marls of the ancient lake bed we find fossil remains of the mammoth, the mastodon, the three-toed horse, several extinct dogs, and vultures. Passing on down the valley of the Río Grande, which enters White Rock cañon just below the pueblo of San Ildefonso, varying aspects of the geological structure of the plateau rim are to be seen. In the cañon opening into the Río Grande at this point we encounter basaltic extrusions of recent geologic time. An example of this is seen at the well-known Black mesa, which rises boldly from the valley on the eastern bank of the Río Grande just north of San Ildefonso. This is the Tuyo of Tewa mythology, the Sacred Fire mountain on which the Indians of Pohwoge (as San Ildefonso is called by the natives) built their pit-dwellings and lived through the historic sieges of the early period of Spanish occupancy, and to which to this day they make pilgrimages and present offerings at their ancient fire shrine. These black basaltic extrusions bear no geological relation to the yellow tufa formations that cover the major part of the plateau. That they are more recent in origin is shown by the fact that the under-side of the tufa cap is thoroughly baked at the point of contact with the basalt, showing that the volcanic tufa was not laid down upon a cold surface, but that, on the contrary, the basalt has been thrust up from below at a time subsequent to the deposit of the tufa, which belongs to a geological period very remote. The age of the New Mexico basalts affords

an interesting problem and one that is constantly being brought forward in connection with the question of the age of man in the Southwest. Geologists hold that the most recent volcanic formations of New Mexico may not exceed from eight thousand to twenty thousand years of age. However, we find as yet no evidence of the existence of man in this region contemporary with the most recent volcanic activity. We are constantly hearing of specimens of

charred human bones and charred corn being found imbedded in the lava. Evidence of the existence of man at this period in the Southwest would not be unwelcome, but it must be stated that not a single case of the kind above mentioned has been substantiated by the facts upon careful investigation. Examination of these specimens has in every case shown that the material in which they are imbedded is not basalt but a material totally different



FIG. 82. — The northern trail.

chemically, undoubtedly a fused adobe. Such specimens might be produced at any time by the burning down of a building in which



PANORAMA OF EL RITO DE LOS FRIJOLES

corn or human bones were in contact with adobe soil. The adobe fuses readily and gives a product which superficially bears considerable resemblance to basaltic lava.

Passing on down the valley of the Rio Grande, its gorge becomes deeper until we reach the point at which the cañon of the Rito de los Frijoles enters. Here White Rock cañon has a depth of nearly a thousand feet. It is not possible to enter the valley of the Rito de los Frijoles by passing up its gorge from the Rio Grande. The narrow passage is blocked by two waterfalls which have a leap respectively of about seventy and ninety feet. One must climb to the mesa top by the old Navaho trail south of the Rito, follow this a mile or two toward the mountains, and then descend by an ancient rock trail into the gorge at the site of the old Tyuonvi villages. Another ancient trail enters the cañon from the north (figure 82).

Of all the beautiful and romantic spots in the Southwest none surpasses the Rito de los Frijoles (plate xx). The part of it of especial interest to us is the lower five miles of its course, and of this portion a stretch covering less than two miles has the archeological interest which claims our attention at the present moment. The flood-plain in the bottom of the cañon nowhere exceeds an eighth of a mile in width. The streamlet which issues from the Jemez mountains, ten miles above, carries its waters during the entire year to the Rio Grande. It is never-failing. It has endured for ages through the progressive desiccation that has extended over the entire Southwest, leaving the valley of the Rito one of the few spots still habitable in a region long since depopulated because of the failure of water. The former populous condition of this plateau is attested by the myriad remains of cliff-houses and ancient pueblos that occupy every valley and mesa top from the Chama river to the Cochiti and between the Jemez mountains and the Rio Grande.

A glance at the structural map (plate xxii) will give a fairly clear impression of the geological formation of the cañon of the Rito. The northern wall is a vertical escarpment of from 200 to 300 feet high, rising above a sloping talus. The southern wall has a more gentle slope, is lightly timbered, and nowhere presents the long, continuous, vertical escarpments seen on the northern wall.

The ancient remains in the Rito consist of four community houses in the valley and one on the mesa rim near the southern brink of the cañon, and a series of cliff-houses extending for a distance of a mile and a quarter along the base of the northern wall. These cliff-houses are of the excavated type sometimes known as "cavate lodges," but this term is one that should be rejected from the nomenclature of Southwestern archeology. The excavated cliff-house is as much a true cliff-dwelling as is the pueblo built in the natural



FIG. 83. — Alcoves in cliff, originally forming back rooms of talus pueblo.

cave. The true character of the so-called "cavate lodge" has not been fully understood. Some of these excavated rooms have been used as domiciles independently of any construction upon the talus against the cliff, but through the entire Pajarito region, where this type of cliff-dwelling culture reaches its culmination, the excavated rooms were not generally used as independent domiciles: they served more often as back rooms of the houses built upon the sloping talus against the cliff wall (figure 83). In the Rito de los Frijoles thirteen of these talus villages were identified and sufficient



PANORAMA OF TALUS VILLAGES—GROUP B

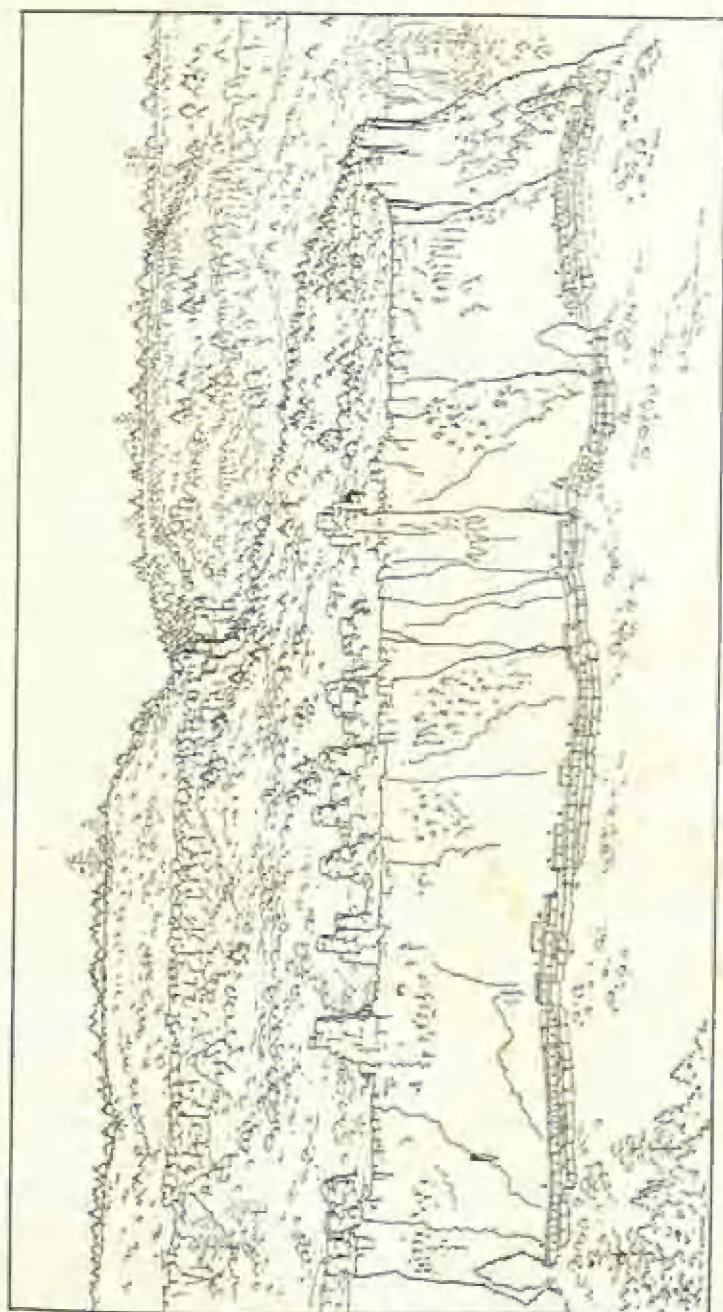


FIG. 84.—Restoration of Group D.

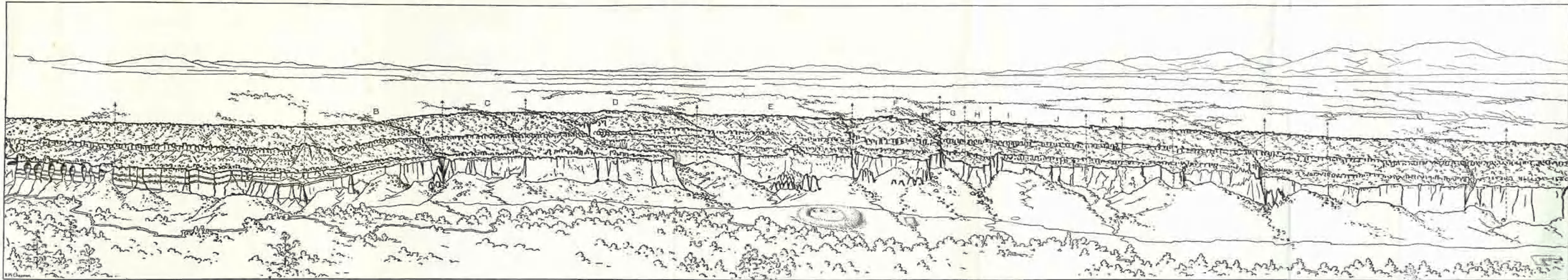


FIG. 85. — Ground-plan of talus village, Group D.

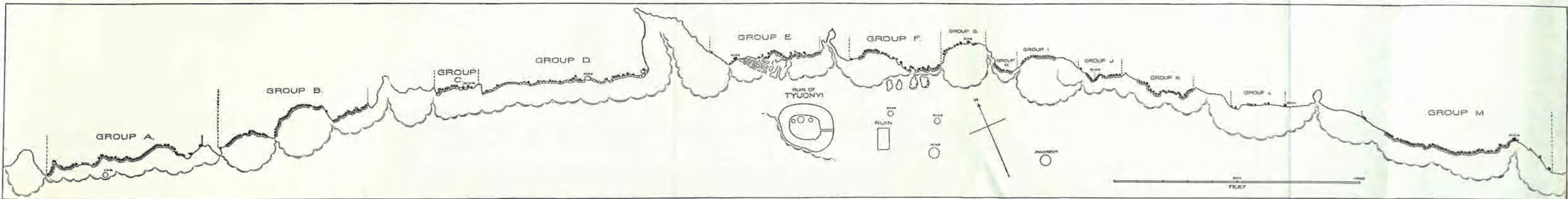
excavation done to lay bare foundation walls establishing the existence of houses of from two to four terraces built against the cliff. The series of panoramic views (plates XX, XXI, XXII–XXV) shows the present condition of several of these talus villages. Mr Chapman's restoration of Group D (figure 84) shows that village in its original condition. (See also the ground-plan, figure 85.)

Nowhere else are the evidences of the existence of the talus pueblos so well preserved as in the Rito. Here we see not only the rows of holes in which rested the floor and the ceiling timbers of the buildings, but in many cases the plaster is still upon the rock which formed the back wall of the house in front. Of the thirteen talus pueblos found in the Rito de los Frijoles some contained perhaps not to exceed 20 to 25 rooms. The largest, shown in figure 84 as Group D, was a continuous house from one story to four stories high and extending along the cliff for a distance of 700 feet. Compare the map of village groups (plate XXII), the ground-plan of Group D (figure 85), the restoration (figure 84), and the photograph of this group (plate XXIV). Very little excavation has as yet been done in the talus pueblos. The uncovering of all these ancient villages will be a work of great interest and will extend over several seasons. Whether each separate village represents the abode of a single clan or whether their separation is merely dependent upon the structure of the cliff is yet to be determined.

The principal focus of population in the Rito de los Frijoles was the great community house of Tyuonyi. This was a terraced structure, roughly circular in form (see plan, figure 86). It



STRUCTURAL MAP OF THE NORTHERN WALL OF RITO DE LOS FRIJOLES—BIRD'S EYE VIEW LOOKING NORTH. THE LETTERS INDICATE THE LOCATION OF TALUS VILLAGES. THE CIRCULAR MOUND NEAR THE MIDDLE IS THE REMAINS OF THE GREAT COMMUNITY HOUSE OF TYUONYI



MAP SHOWING THE TALUS VILLAGES OF THE RITO DE LOS FRIJOLES BY GROUND PLAN



was built of blocks of the volcanic tufa, and the amount of debris indicates that it was a three-story pueblo. Unlike the majority of the large community houses of this region, this building is somewhat regular in construction. As a rule these buildings seem to have grown by gradual accretions, single rooms or suites of rooms

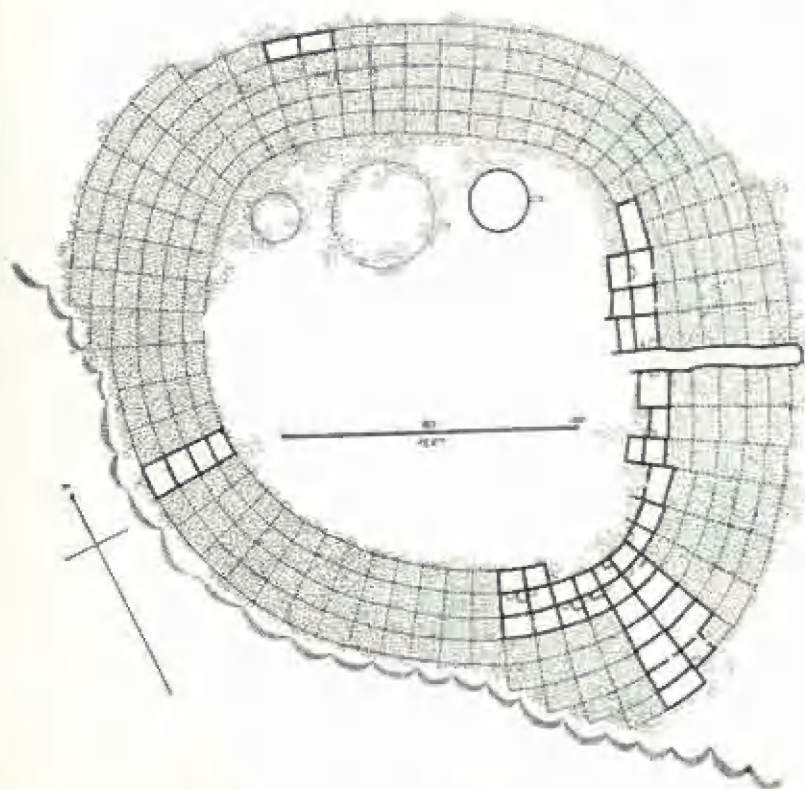


FIG. 86.—Ground-plan of community house, Tyudnyi.

having been added to the building to meet the needs of increasing families. Here there is a total absence of this irregularity of plan. It would appear that the entire building was planned and executed at once. The curving walls are not produced by simply changing the direction of the wall from room to room. The walls form curved lines. The thinnest part of the structure was at the southwest, where there is a flattening in the roughly circular plan, due to the

nearness of the creek. On the southeast the excavations have laid bare the ground-plan of the building as shown in the drawing. In all 44 rooms have been excavated in this building.

The detailed description of the building, its architecture and appurtenances, is reserved for the report to follow the excavations of the

season of 1909, when a much larger area will have been uncovered.¹ At present it may be observed that the building is not so well constructed as others that have been excavated in the Pajarito region, e. g., those at Puye and Tchirege. The walls are lighter, the stone hardly so well prepared, not so well laid nor so well plastered.



FIG. 87. — Entrance to court.

Neither is the flooring so firmly made. The form of the building was well calculated for defense. The living-rooms were entered from the inner court by means of ladders ascending to the roofs and then through hatchways and by ladders descending into the interior. The court, so far as can be determined, was en-

¹ It is expected that this report will appear in the next issue of this journal.

tered by a single passageway (see plan) on the eastern side. This has been cleared (figure 87). It is of irregular width, varying from six to seven feet, the side walls covered with adobe plaster and the eastern or outer end provided with a double system of barricades. Posts were planted across the passage at short intervals, and outside of this a stone wall partially closed, and, as occasion required, could be made to completely close the entrance.



FIG. 88. — Excavated kiva.

An interesting fact was disclosed by the excavation of the interior court. The construction of the building is such that there has been no wash of soil into the inner court, yet the exploratory trenches produced in every direction from the center toward the inner wall show an accumulation of soil in the court, since the abandonment of the building, of from two to six feet in depth, the greatest accumulation being against the wall at the southeastern part. A study of the environment of the pueblo reveals no means by which the soil could have been laid down except by atmospheric deposit, and the situation is not exposed to drifting desert sands,

being in a deep sheltered verdant cañon that lies between lightly timbered grassy mesas.

One of the most interesting features of the archeological remains in this region is the kivas, the circular subterranean chambers which we know were the tribal sanctuaries. Three of these ceremonial rooms are found within the court of the great pueblo, one of which was excavated by us (figure 88). A few rods below the large community house was found the largest kiva that has yet been discovered. It has long passed for a reservoir. The excavation of this structure lays bare a circular room almost 42 feet in diameter, lined with a double wall of tufa blocks. On the floor near the eastern side is the fire-pit known to the Tewa Indians as the *sipapu*. In the floor are seen the holes in which stood the four columns that supported the roof of the kiva. The method of roofing will be shown in a subsequent paper. The entrance to the kiva was through a trap-door in the roof which was probably placed at the point of intersection of the diagonals drawn from the columns supporting the roof. If there was an altar it probably occupied a place on the floor between the *sipapu* and the wall back of the fire-pit, and was doubtless built in terraced form of stone and adobe, three or four feet wide, about a foot thick, and rising to a height of three or four feet. This conjecture concerning the arrangement of the altar is based on what is to be seen in similar sanctuaries now in use in various pueblos of the Rio Grande valley. It is not to be accepted as conclusive, for in the three kivas excavated by us in the Rito, the altar, if it ever existed, has disappeared.

In the wall adjacent to the fire-pit is a horizontal tunnel (figure 89) forming a passageway from the kiva to a vertical shaft a short distance outside the kiva walls (figure 90). This tunnel is somewhat more than two feet wide; its floor is a few inches above the floor of the kiva, and its roof, which was probably of wood, nearly four feet above the floor. On each side of the entrance was a stone post, and above, a heavy lintel of stone. The drawings of the tunnel and shaft shown in figures 89 and 90 give a type representation, certain features being shown as found and others being somewhat conjectural. The shaft itself was not large enough to permit of its being a practicable entrance, though the tunnel is of ample size. In the



TALUS VILLAGES, GROUP A, NORTHERN CLIFF OF TYUDONI

great kiva here described two such entrances exist, one on the eastern and one on the western side. In no other kiva has more than one such entrance been found. The function of this feature of the subterranean ceremonial rooms cannot be regarded as finally determined. It is a feature common to all ancient kivas, both in the Rio Grande and the San Juan valley, but does not exist in the kivas of the modern Pueblo towns. It is what Dr J. Walter Fewkes, in his report on the excavation of Spruce-tree House in Colorado, describes as a device for the ventilation of the kiva.

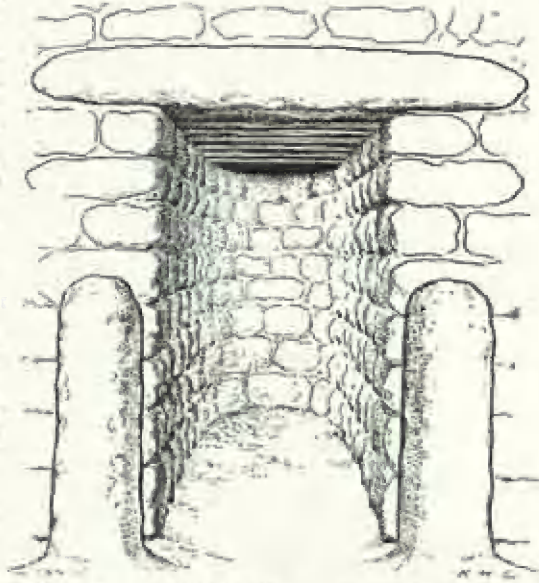


FIG. 89. — Interior of kiva — ceremonial entrance.
(Restored.)

I am not yet prepared to accept Dr Fewkes' determination, nor am I inclined to oppose any view of my own to that of the distinguished scholar who has long been my teacher in American archeology. I simply await further evidence on this interesting point, and for the present continue to call this feature of the kiva the "ceremonial entrance." Whatever may have been its function, it was doubtless the same throughout the Pueblo region. An examination of more than a hundred examples in southern Utah and Colorado, in the Chaco cañon, New Mexico, and the Rio Grande drainage, shows that while this appurtenance of the kiva varied greatly in form and construction, the same principle prevailed throughout. In Utah two sticks are usually found in the shaft, crossed at right angles.

In the Rito de los Frijoles kivas are found in three situations, viz., contiguous to the pueblos in the valley bottom, sunk in the

talus in front of the cliff-villages, and excavated in the walls of the cliff. It seems likely that each group or village possesses its own kiva, and this has an important bearing on the question of whether or not each of the seventeen separate groups of houses in the community, outside of the great pueblo, constituted the abode of a clan.

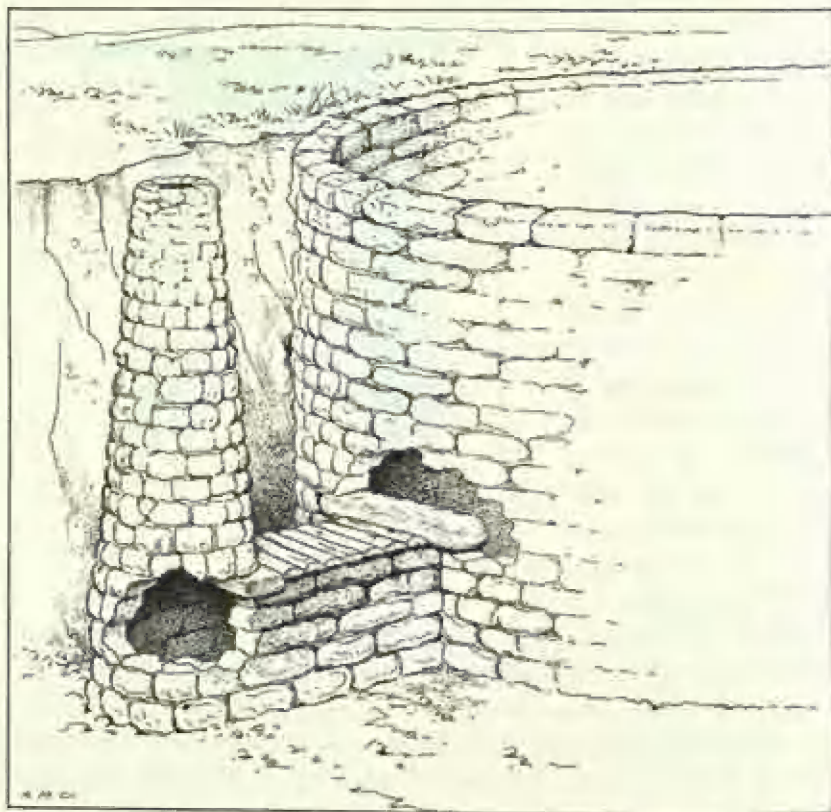


FIG. 90. — Exterior of kiva. (Restored.)

There is much to indicate that the dual system of tribal organization existed in the Rito de los Frijoles. It is probable that the great kiva above described was the sanctuary of either the Winter or the Summer people.

A few hundred yards to the east of the great kiva is an object that presented an intricate problem. It consists of a circular floor



TALUS VILLAGES, GROUP D, NORTHERN CLIFF OF TYUONVI

constructed of tufa blocks laid in concentric form. Many conjectures arose with reference to the function of this circular platform; that it could have been a threshing floor has been rejected for the reason that the natural earth, properly smoothed and beaten, forms



FIG. 91. — The great ceremonial cave.

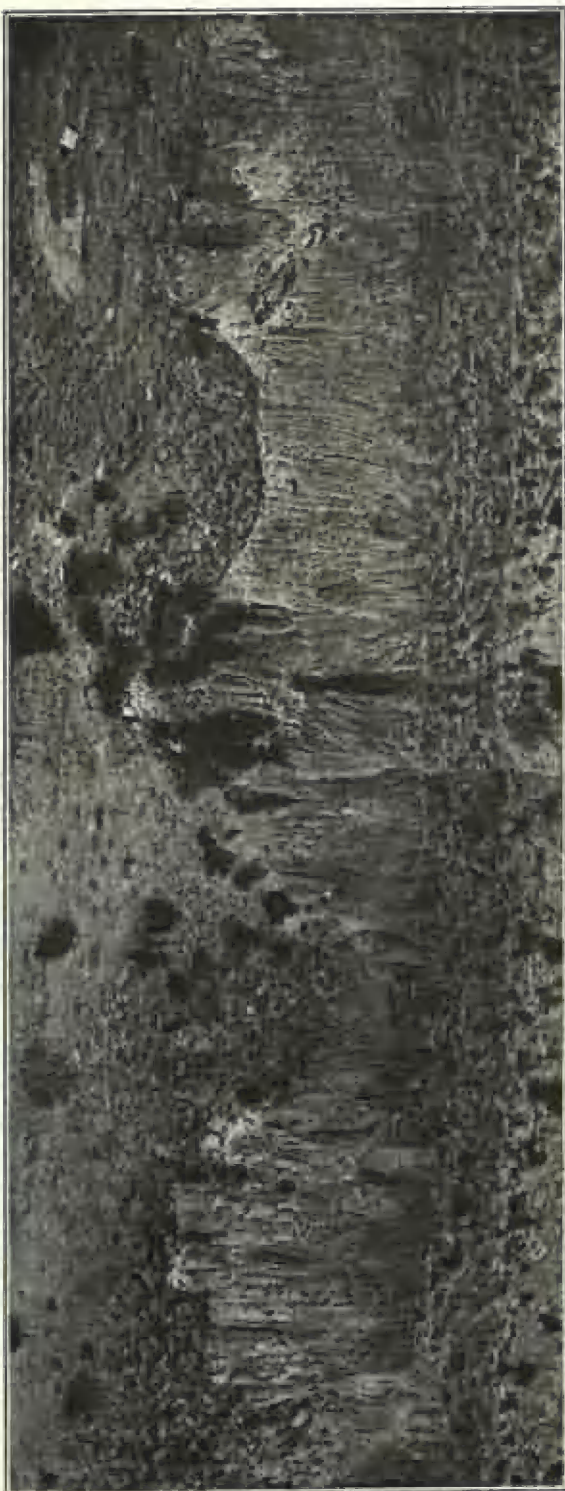
the best possible threshing floor in the Southwest. The solution that appeals most strongly to the writer is that this circular platform is what remains, that is, the floor, of the other tribal kiva that was built entirely above ground, as is the case at Santa Clara and



FIG. 92. — Kiva in great ceremonial cave; after excavation.

at San Ildefonso, and that its circular walls have been entirely removed. At a short distance farther down the valley such a circular stone building is still standing. It is not believed that this building is of aboriginal origin; indeed, the Rito de los Frijoles was occupied more or less for two centuries by Mexicans. We know that at one time it was the favorite resort of outlaws who found in it a secure refuge. It would have been natural for such persons to remove the ruined walls of a building such as has just been supposed, and with the stone to construct a similar building for residential purposes near by.

Another interesting feature of the archeology of the Rito de los Frijoles is the great ceremonial cave, situated high in the face of the cliff just opposite the upper pueblo (plate xxvi, figure 91). This cave is entered with considerable difficulty, all vestiges of its ancient entrance having disappeared. The cave has contained several rooms built against the wall, and back of these were excavated rooms. In the bottom of the cave was a kiva excavated in the rock



TALUS VILLAGES, GROUPS E AND F, NORTHERN CLIFF OF TYUONYI

floor (figure 92). This we cleared of its accumulated débris, finding numerous interesting articles well preserved because of their protection from the elements. Specimens of matting were taken from the kiva in an almost perfect state of preservation, also perfectly preserved grains of red corn were found. This is one of the few ceremonial caves found in this region. One long known to us is that called "La Cueva Pintada," or The Painted Cave, in the northern wall of the Cañada de la Cuesta Colorada (figure 93). This cave has its walls covered with pictographs painted in red, white, and black. The ceremonial cave at the Rito has some features in common with the Painted Cave, but contains no wall-paintings.

The problem of how the people of the Rito disposed of their dead proved to be an obscure one. It is stated by Bandelier, in *The Delight Makers*, that fascinating ethno-historical romance of the Rito, that cremation was practised. It is probable that this



FIG. 93. — La Cueva Pintada.

belief was based on the traditions of the Cochiti Indians with reference to the custom among their ancestors. It should be borne in mind, however, that in a large number of cases in this region where living tribes have claimed ancient sites like this as the homes of their ancestors, it is done for the purpose of assuring property-rights which these villagers have desired to maintain and which seemed to them to be strengthened by the claim that these were their ancestral homes. Close investigation and the removal of the reason for



FIG. 94. — Ruins of the "Pueblo of the Stone Lions."

setting up such claim have in some instances brought about the repudiation by the Indians themselves of this tradition. Such was the case at Santa Clara with reference to the Puye. So traditions of cremation among the Cochiti people cannot be accepted as conclusive in their application to the ancient people of the Rito until there is some further investigation of the question of their relationship. Exploratory trenches carried in every direction about the great community house of Tyuonyi revealed no general community



VIEW FROM INTERIOR OF THE GREAT CEREMONIAL CAVE

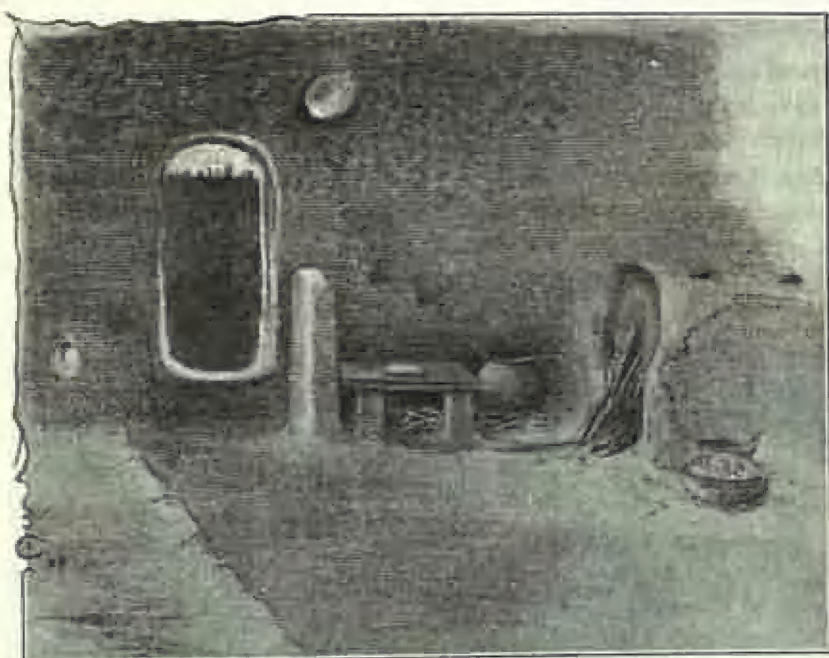


FIG. 95. — Corner of cliff room. (Restored.)

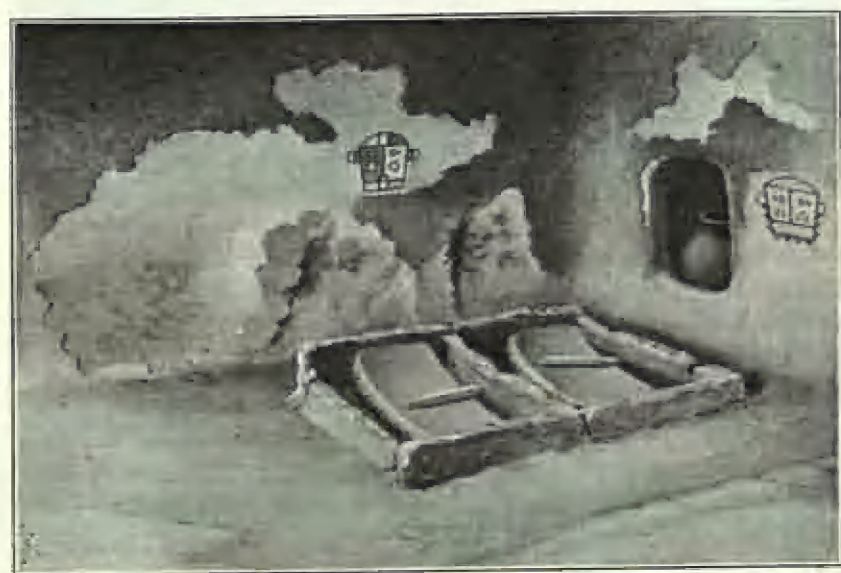


FIG. 96. — Corner of cliff room. (Restored.)

burial place such as we expect to find in close proximity to every great stone pueblo of this region. Toward the end of our excavating season, when we had almost decided to accept the cremation theory, a series of trenches through the talus in front of Group D, about two-thirds of the way down to the flood plain, and carried parallel to the cliff wall, disclosed a number of burials. It now seems likely that talus burial was the prevailing mode. All the skeletons found were buried separately in the talus and were not accompanied with pottery or other utensils. Some excavations were made in the ruins of the small pueblos in the valley bottom below the great community house, and thirty-five rooms were cleared in the ruin on the cañon rim south of the Rito.

In addition to the excavations made at the Tyuonyi settlements during the season, a considerable amount of exploratory trenching was done at the ruin of Haatse, a pueblo lying on the mesa top south of Cañada de la Questa Colorada, a distance of perhaps ten miles in an air-line from the Rito. Several rods of trenches were run also about the "Pueblo of the Stone Lions" on the Potrero de las Vacas, about six miles in a straight line south of Tyuonyi (figure 94). Besides this a number of rooms were excavated in the pueblo. This site is especially known on account of the "Shrine of Mokatch" found near by. This noted shrine consists of a stone stockade inclosing the effigies of a pair of pumas, or mountain lions, which lie extended at full length side by side, carved in high relief from a great tufa boulder in situ. Descriptions of it will be found in the works of Bandelier, Lummis, and Starr, and the latter has done excellent service by preparing casts of the idols in plaster, the originals of which may be seen at his department in Walker Museum, Chicago University, from which a number of copies have gone to various museums throughout the country.

The results of these various excavations will be described in the detailed report of the excavations at Tyuonyi, to appear in a subsequent paper. Detailed description of the material found will also be made in a separate report. The excavations this season were less productive of material than those of former years, but the work will result in substantial additions to our knowledge of the archeology of the Rio Grande drainage.

Not the least of the results to be kept in view in all archeological work now carried on in the Southwest is that of the preservation of our ancient ruins. The foundation for this was laid in the laws for the preservation of American antiquities passed by Congress in 1906 which, however imperfectly they have been executed by the departments having control over the lands still under the custodianship of the Government, nevertheless prepare the way for the conservation of the remains that are essential to the study of the history of



FIG. 97. — Interior of cliff chamber.

man in America. The educational value of these fragments of culture-history is very great, and it is only by making them accessible, opening them to the understanding of the public by the excavation of the buildings and the recovery of the articles buried therein for study and exhibition in museums, that their value can be realized. So in all excavations made, not only the recovery of specimens but the preservation of all structural remains is kept in view, and also that these remains shall so far as possible be made to tell the story

of human history as it was enacted here, the life and customs of the people. With this end in view a beginning has been made in a work, new to American archeology, which may be capable of quite extensive use in places that can be kept under adequate protection, viz., the restoration to their proper places in the buildings, especially



FIG. 98. — Interior of cliff dwelling.

the cliff-houses, of the heavier and more common articles of domestic use. Nowhere else can the articles recovered from the ruins be so instructive as in their proper relation to the houses and rooms in which they were used. Until absolute protection from vandalism can be assured, it is of course unwise to so place the smaller and

more valuable articles. The reproductions from Mr Chapman's sketches illustrate our first attempt of this kind. In one of the best preserved cliff-houses of the Rito, the various articles of domestic use have been restored to their proper places. In the corner adjacent to the door (figure 95) is seen the fireplace, with fire-dogs, comal stone, fire-screen, and cooking-pot in place as when in daily use, with the tinaja (water jar) and gourd dipper near at hand. In another corner (figure 96) are to be seen the meal-box with the necessary appurtenances for grinding the corn, i. e., metates, manos, and macetas. In a small alcove room adjacent to the meal-box is seen the tinajon, or large storage vessel for containing the prepared meal. Above, near the ceiling and not visible in the sketches, are stretched the strings of rawhide on which are hung strips of drying meat, skins, etc. On one side of the room are the place and material for pottery making — clay, mortars, paint-pots, smoothing stones, modeling forms, and vessels illustrating the various stages of the potter's art. It is believed that such a restoration will constitute a field museum of great value.

SCHOOL OF AMERICAN ARCHÆOLOGY

ARCHÆOLOGICAL INSTITUTE OF AMERICA

SANTA FE, NEW MEXICO

ANTHROPOLOGY AT THE WINNIPEG MEETING OF THE BRITISH ASSOCIATION

By GEORGE GRANT MACCURDY

FOR twenty-five years it has been the policy of the British Association for the Advancement of Science not to confine its annual meetings to the British Isles. Pursuant to this truly imperial policy a meeting was held in Winnipeg, Manitoba, August 25 to September 1, 1909. This was the third meeting on Canadian soil, the first having been held at Montreal in 1884, and the second at Toronto in 1897. To the Winnipeg meeting the officers of the American Association for the Advancement of Science were invited as guests, while a general invitation was extended to all its members and fellows. These invitations were not only very highly appreciated but also accepted by a considerable number of American men of science who are only too glad of an opportunity to attend a meeting of the British Association without being compelled to cross the Atlantic.

By a curious coincidence the anthropological interests of each association are represented by a Section H, which had held its first meeting in Montreal—that of the American Association in 1882 and that of the British Association in 1884. The sectional President at Winnipeg was Professor John L. Myres of the University of Liverpool. The full text of his address on "The Influence of Anthropology on the Course of Political Science" has appeared in *Nature* of September 23. In it he emphasizes the double place held by anthropology in the general scheme of knowledge. On the one hand it may be considered as a department of zoölogy, or geography; on the other as embracing whole sciences such as "psychology, sociology, and the rational study of art and literature." From ancient Greece, the renaissance, and the periods of great discovery and colonization, numerous authors were cited "to show how intimately the growth of political philosophy has interlocked at every stage with that of anthropological science."

The history of the subject for the last fifty years shows how European colonization and anthropological discoveries have united to establish a Matriarchal Theory of society as a rival of the Patriarchal, and then to confront both with the phenomenon of totemism. Anthropology may yet furnish the facts about human societies that will make it possible for the student of political science to measure the forces which maintain or destroy states. The address closed with a strong plea for an ethnological survey of Canada before it is too late.

The reports of various committees formed an important part of the program. The committee appointed to investigate the lake villages in the neighborhood of Glastonbury reported that owing to the amount of work required in compiling and arranging the details of the monograph on Glastonbury lake village, it was found inexpedient to resume excavations this summer on the new site at Meare. The expenses incurred in the preliminary excavations carried on at Meare last summer have already been paid by Mr Bulleid, and consequently no part of the 5 £. grant made by the Association has been expended. The committee have therefore to recommend that this grant be renewed, together with at least 30 £. in addition. With a sum of 35 £. assured, and the number of private contributions already announced, the committee hope to make considerable progress in excavating the Meare lake village during the summer of 1910. Judging from the discoveries already made and recorded (Tenth Report, Dublin Volume, p. 414), this new lacustrine site promises to be richer in archeological remains than even Glastonbury.

The committee appointed to ascertain the age of stone circles have obtained evidence bearing on the probable date of the monument at Avebury which is ascribed to the neolithic period. Sectional and other plans of all the parts excavated have been prepared with great care and a large number of photographs were taken. The grant of the Association together with most of the money raised by subscriptions having been expended, the committee asked for a new grant of 75 £., and for reappointment with leave to invite subscriptions commensurate with the costliness of the excavations due to the huge scale of the earthworks.

The committee appointed for the collection, preservation, and systematic registration of photographs of anthropological interest, reported that, as no grant was made to it last year, and the balance in hand had all been expended, no additions to the collection have been made since the last meeting of the Association, as it is useless to accept prints for the collection if it is not possible to mount and store them. The committee, first appointed in 1899, has received nothing beyond the initial grant of 10 £. More than a thousand photographs have been received and mounted, while in addition to this, other collections, numbering some three thousand subjects, have been registered, catalogued, and made available to students.

President Myres reported for the committees on excavations of Roman sites in Great Britain and on the preparation of a new edition of "Notes and Queries on Anthropology." The latter will appear within the coming year.

The committee on archeological and ethnographical researches in Crete presented the following interim report from Mr C. H. Hawes, who was able to return to Crete in the spring of 1909. In view of the important results outlined in this report and of the possibility of a longer stay in Crete than Mr Hawes originally contemplated, the committee asked to be reappointed, with a further grant.

REPORT FROM MR C. H. HAWES

A piece of good fortune was met with at the opening of this season's work. During October, 1908, four skulls, two portions of other crania, and several pelvic and long bones came to light in the course of deepening a well in the alluvial bank of an ancient river ten minutes east of Candia. The argillaceous deposit in which they lay had acted as a natural plaster of Paris, and we are now in possession of human osseous remains of not later than the Middle Minoan I. period, in the most extraordinary state of preservation. Complete measurements and observations have been made upon these, and I hope to publish them at an early date with a comparison of those discovered by Dr Duckworth in 1903.

In attacking the problem of how to discover or uncover the ancient stratum among the modern people, I have addressed myself to the task of finding out and isolating, if possible, alien elements of historical times. Representatives of Turkish and old Venetian families have been approached, and genealogical, traditional, and historical information gar-

nered, with a view of testing them anthropometrically. For example, one village at which I am to stay this week claims to contain only descendants of Venetians who have strictly refused exogamous marriages. A small Armenian colony has existed in Candia since the Turkish occupancy in 1669, and inasmuch as the Armenoid type of head is met with in the eastern end of the island, whether of historic or prehistoric date, this little band of settlers is being measured. Albanian influence has been suspected in Crete, and rightly so, since for various reasons the Turkish Janissaries in the island included large numbers of these Europeans, and considerable mixture resulted. In view also of the Dorian occupancy of Crete and the belief in certain quarters that Illyria largely furnished the Dorian hosts, it seemed important to get at the Albanian type. Records of these and other peoples to be met with in the island were in my possession, but I was anxious to attempt the method of race analysis by contours of the living head. During my short stay at Athens I was able, by the aid of Mr Steele of the Lake Copais Company, to pay a flying visit to an Albanian village in the mountains to the northeast of the lake. There, in the village of Martino, reputed to be the purest of five such, I measured forty individuals and obtained contours of their heads by means of an instrument which I had just completed.

The problem has been attacked from another direction. What modification of the cephalic index and the shape of the head has been effected by artificial deformation or formation of the head? I am indebted to Professor Macalister for calling my attention to the importance of this factor. It is a custom which is far more prevalent than is dreamed of, and thousands of people in this island, mostly of the male sex, are unaware of a custom which is universal except among the Mussulmans and the better educated minority of urban population. As to the reason and methods of such head shaping, I hope to enter into details in a separate paper. The first object was to gauge the effect on the cephalic index and the contours. At the outset it is necessary to distinguish between the results of intentional formation and involuntary deformation due to the lying on hard surfaces. For these purposes I am making comparisons between subjects who have and have not undergone head shaping, and between those who have and have not suffered from a pillowless infancy. Striking examples of the latter are to be found among the small colony of Epirote bakers, who, owing to the extreme poverty of their parents at home, the circumstances of which I shall enter into more fully elsewhere, possess the most extraordinary and incredible head-shapes it has been my lot to see. Similar observations are being made upon the Armenian

settlement here. Observations on these two extreme forms of head will prove instructive in comparison with the results of similar, though modified, treatment of the Cretan native. Further, whole families of Cretans are under observation, and measurements and contours have been taken of them, including children who have and have not been bandaged in their infancy, from the age of fourteen days up.

In addition to these researches which are in progress, I have been able to garner from a cave, where are carelessly consigned the bones of many a deceased Cretan of to-day after a short burial in the cemetery, some hundred bones from all parts of the skeleton, saving, unfortunately, the cranium; and thus a comparison is possible between skeleton and skeleton of ancient and modern times. Two collections of hair, representing a series of shades, have been made for me by Orthodox and Mussulman barbers in Candia.

Crete appears to me to be a more than ordinarily instructive and significant field of research, and I hope that in the short time at my disposal I may find answers to some of the many questions which open up at every turn.

The committee to conduct archeological and ethnological investigations in Sardinia reported as follows:

Dr Duncan Mackenzie, honorary student of the British School at Rome, returned to Sardinia at the end of September, 1908, and stayed there till the middle of November. He was accompanied for part of the time by the director, Dr Thomas Ashby, and by an architectural draftsman, Mr F. G. Newton, student of the school.

Their new observations have materially increased our knowledge of the two main groups of Sardinian megalithic monuments, the *nuraghi* and the "tombs of the giants." The previous year's work made it clear that the former were fortified habitations. Dr Mackenzie has now visited other examples and recorded variations of type and peculiarities of construction. The most remarkable is the nuraghe of Voes in the Bitti district towards the north of central Sardinia. Triangular in plan, it contains on the ground floor circular chambers with beehive roofs; the usual central chamber, and one in each of the three angles. The entrance is on the south and leads into a small open court with a doorway at each side leading to the chamber at the base of the triangle, and another doorway straight in front by which the central chamber is entered. There was an upper story, now destroyed, reached by a stairway of the usual type. Exceptional features are two long curving corridors in the thick-

ness of the wall on two sides of the triangle, intended probably as places of concealment. Above them were others of similar plan, but both series are so low that the roof of the upper one is level with that of the beehive chamber on the ground floor. This skilfully planned stronghold must have been built all at one time; other large nuraghi were originally of simpler design, and have grown by the addition of bastions and towers.

A new type of nuraghe was discovered at Nossia near the modern village of Paulilatino, in central Sardinia. It is a massive quadrangular citadel of irregular rhomboidal plan, with a round tower at each corner. These towers resemble the stone huts of the villages attached to some of the nuraghi; they are entered from a central court-yard which here takes the place of the normal beehive chamber. It was partly filled with circular huts, so that the nuraghe must be regarded as a fortified village rather than as the castle of a chieftain.

The dwellers in these nuraghi buried their dead in family sepulchres popularly known as "tombs of the giants." Several writers had suggested that these tombs, with their elongated chamber and crescent-shaped front, were derived from the more ancient dolmen-type; but hitherto there was little evidence to support this conjecture, only one dolmen being known in Sardinia. Dr Mackenzie has now made this derivation certain; he has studied ten important groups of dolmen tombs, most of them entirely unknown, which furnish a series of transitional types. In one case the chamber of an original dolmen tomb had at a later period been elongated so as to resemble that of a "giant's tomb." In another example the large covering slab was supported by upright slabs at the sides and back; and behind it there are traces of an apse-like enclosing wall, such as is characteristic both of the giants' tombs and also of dolmens in certain localities where giants' tombs do not exist — for example, in northern Corsica and in Ireland. Dr Mackenzie also discovered a new type of giant's tomb in which the mound was entirely faced with stone, upright slabs being used below and polygonal work above. Another feature, hitherto unique, is a hidden entrance into the chamber at one side, in addition to the usual small hole in the center of the front through which libations and offerings were probably introduced.

These results were described at a meeting of the British School at Rome in March 1909 (see *Athenaeum* of March 27). An illustrated report of them will appear in volume v of the *Papers* of the School.

Dr Mackenzie and Mr Newton intend to go to Sardinia in September, for six weeks, in order to continue the exploration of the island. The importance of anthropometrical work in connection with the problems

presented by the early civilization of Sardinia was pointed out in a previous report of this committee. Mr W. L. H. Duckworth, a member of the committee, went to Rome last April and studied the collection of one hundred Sardinian crania in the Collegio Romano. He made about 1200 measurements, and is preparing a report which will serve as a basis of comparison with any collection of ancient crania that may be obtained. In addition to these specimens, which have not been described previously, Mr Duckworth has examined about thirty Sardinian crania in the museums of Rome and Paris. He has recently spent ten days in Corsica, where he obtained valuable illustrative material, and hopes to take part in Dr Mackenzie's expedition to Sardinia in September next.

The committee ask to be reappointed, and apply for a grant.

Although the last report of the committee on anthropometric investigation in the British Isles was considered to be final as regards the method of anthropometric investigation, it was thought advisable to reappoint the committee to act as an organizing center to promote the establishment of anthropometric investigation among all classes of the population of the British Isles. In this direction important work has been done during the last year.

In October last, the secretary, at the request of Dr Rawson, the principal of Battersea Polytechnic, instructed his medical officer in the method of carrying out measurements in accordance with the committee's scheme.

The importance of installing anthropometry in public schools was brought under the notice of the Headmasters' Conference on February 10 last, and their coöperation was asked. In reply, a letter was received from the secretary of the Headmasters' Conference Committee, suggesting the issue of a short circular explaining the items of information that it was most important to collect. In response to this suggestion a memorandum was drawn up and sent out by the anthropometric committee to the headmasters of 107 public schools. It is hoped that this action will result, in the course of time, in the general establishment of anthropometry in public schools.

Measurements are now being carried out generally under the direction of the medical officers of the education authorities, in primary schools, and in a certain number of provided secondary schools. But there is still a wide field among secondary schools

for both boys and girls in which the committee could do good work.

The 1908 report of the committee on anthropometric method has been issued as a separate publication by the Royal Anthropological Institute (price 1 s. net). This will make the scheme of the committee available, in cheap and convenient form, to all who propose to undertake anthropometric work, and will insure the uniformity which is so essential to make the results of different measurers comparable.

The committee recommended that they should be reappointed, with a grant of 5 £. for printing or typing circulars, postage, stationery, etc.

The work of the committee on the establishment of a system of measuring mental characters is going forward and promises to yield interesting results, but is not sufficiently advanced for a full report.

The committee asked to be reappointed, and that a grant of 5 £. be made to them for printing cards and for other inevitable expenses.

President Myres reported for the committee to investigate neolithic sites in northern Greece. The work has been done by the Liverpool Archæological Institute. The mounds of southern Thessaly are found to be the accumulations of successive village sites. This region was occupied by a neolithic population that formed an effective barrier between the Mediterranean civilization on the south and that of the Danube valley on the north, and lagged behind both. At the top of one of these mounds were found bronze age graves of an Ægean people. Only a few mounds have as yet been opened, while hundreds remain untouched.

The papers presented covered a wide range of subjects. A majority of these are given in abstract.

Miss A. C. Breton described "Race Types in the Ancient Sculptures and Paintings of Mexico and Central America." The different race-types in the ancient sculptures and paintings found in Mexico and Central America form an important anthropological study. An enormous mass of material, evidently of many periods, includes sculpture, archaic stone statuettes, the portrait statues and reliefs at Chichen Itza, the Palenque reliefs, and the series of magnificent stelæ and lintels at Piedras Negras, Yaxchilan, Naranjo, Copan, Quirigua, etc.

In terra-cotta or clay there are the hundreds of thousands of small portrait heads and figurines found at Teotihuacan, Otumba, the neighborhood of Toluca, and other ancient sites. Larger clay figures have been found in quantities in tombs, as in the states of Jalisco and Oaxaca; these were made as offerings, instead of the sacrifice at a chief's burial of his wives and servants. Small jadeite heads and figures, also found in tombs, show strongly marked types. If there are few specimens in gold, it is because throughout the country the Spaniards ransacked the tombs for gold. In painting there are the picture manuscripts, the frescoes at Chichen Itza, Chacmultun, and Teotihuacan, and a number of vases with figures from Guatemala and British Honduras.

This material is now available for students in Mr A. Maudslay's *Biologia Centrali-Americana — Archaeology*, Dr E. Seler's collected works, the publications of the Peabody Museum, and the reproductions of the Codices by the Duc de Loubat, also in the splendid collections of the Museum für Völkerkunde at Berlin, the Mexican hall of the American Museum of Natural History at New York, and the Peabody Museum of Harvard University.

Among distinctive types are: The chiefs in the reliefs at Xochicalco, who sit cross-legged; the little shaven clay heads at Teotihuacan; the tall, well-built priests, with protruding lower lip, of the Palenque reliefs; the fifteen caryatid statues in feather mantles, of the Upper Temple of the Tigers, at Chichen Itza; and the sixteen stern warriors carved at its doors, these last similar in type to some of the modern Indians of the villages near Tlaxcala.

There are portraits of the Mexican kings on the border of a picture-map which represents the western quarter of Tenochtitlan, and of the householders in that part of the city. Of female types there are the painted clay figures of Jalisco with compressed heads. Some of them have short, broad figures, others are slender. Both types still survive. The queenly women in Codex Nuttall-Zouche, and the women-chiefs of the Guatemalan stelæ, belonged to a caste different to the obviously inferior women on those stelæ, fattened in preparation for sacrifice.

Herr T. Maler's most recent explorations on the borders of Guatemala have given magnificent results in the finding of thirty-seven

stelæ at Piedras Negras, and at Yaxchilan twenty stelæ and forty-six sculptured lintels. The superb figures of warriors and priests indicate a race of men of tall, slender stature and oval face, with large aquiline nose, whilst the captives appear to be of a different race.

A second paper by Miss Breton dealt with the "Arms and Accoutrements of the Ancient Warriors at Chichen Itza." Chichen Itza, in Yucatan, is as yet the principal place in the region of Mexico and Central America where representatives of armed warriors are found. There was a remarkable development in the later history of the buildings there of painted sculptures and wall-paintings, mostly of battle scenes and gatherings of armed chiefs.

The stone walls of the ruined lower hall of the Temple of the Tigers are covered with sculptured rows of chiefs, who carry a variety of weapons. Of the sixty-four personages left, half a dozen have ground or polished stone implements; others hold formidable harpoons (two of them double) or lances adorned with feathers; whilst the majority have from three to five spears and an atlatl, or throwing stick. These are of different shapes. One figure has arm-lets with projecting rounded stones. Some have kilts, sporrans, leggings, and sandals. Eleven personages have tail appendages. There are protective sleeves in a series of puffs; breastplates, helmets, and feather headdresses; necklaces of stone beads; masks, ear and nose ornaments in variety. Small round back-shields, always painted green and fastened on with a broad red belt, may have been of bronze attached to leather, as a bronze disk has been found. Round or oblong shields were carried by two thongs, one held in the left hand, the other slipped over the arm.

The two upper chambers of the same building have reliefs, on the door jambs, of sixteen warriors, life size. They carry a sort of boomerang in addition to spears and atlatls. In the outer chamber was a great stone table or altar, supported by fifteen caryatid figures. Upon its surface was a relief of a standing chief, holding out his atlatl over a kneeling enemy who offers a weapon. The walls of both chambers were covered with painted battle scenes, in which several hundred figures are still visible. They carry spears, atlatls, round or oblong shields, and a kind of boomerang which

was used by the natives in Australia about eighty years ago. It was intended for striking rather than throwing. On one wall the method of attacking high places by means of long notched tree-trunks as ladders and scaffold towers is shown.

The building at the northern end of the great Ball Court is evidently very ancient, and its sculptured walls have chiefs with spears and atlatls. The temple on the great pyramid called the Castillo also has warriors on its doorposts and pillars, with boom-crangs, spears, and atlatls, and so has a building in the great Square of Columns. In an upper chamber of the Palace of the Monjes are paintings in which are men with spears and atlatls, and also spears with lighted grass attached thrown against high-roofed buildings. A survey of all that has so far been discovered at Chichen gives a vivid idea of primitive battle array.

One whole day was devoted to papers and discussion relating to a proposed ethnographical survey of Canada. Mr E. Sidney Hartland began with a "retrospect" which told of the state of culture encountered by the French when they took possession of the territory in the seventeenth century and which reviewed the work that has been carried on since then by men as well as by institutions.

Professor Franz Boas, whose investigations in the Canadian field of anthropology are of the first importance, summed up the "Ethnological Problems of Canada." In the last twenty years a general reconnaissance has been made largely through the influence and financial aid of the British Association. The time has come to concentrate attention on specific regions and problems. Many of the general problems embrace the whole of the Western Hemisphere, such, for example, as the wide distribution of Indian corn and the angular character of the art. The culture of the American Indians is remarkably uniform in comparison with that of Africa or Australia. The continent may be divided into the central, marginal, isthmian, and island regions. The Canadian aborigines belong to the northern marginal culture. The origin of the Iroquois is placed in the southern Appalachian mountains, although at the time of the discovery they occupied the lower St Lawrence. The Iroquoian language has nothing in common with Algonquian, Siouan, or Eskimo. On the other hand, it resembles the Pawnee and the tribes

of the Southwest. The blowgun of the Iroquois seems to connect them with the peoples of the Gulf of Mexico and of South America. The Iroquois therefore do not belong to the northern marginal culture. The Cree (Algonquian) of Labrador have migrated as far west as Kamloops, British Columbia, and isolated Athapascan tribes are found along the Pacific coast. Lack of intensity of the Athapascan culture accounts for the readiness with which it is influenced by contact with neighboring cultures. The Alaskan Eskimo came in recent times from northeastern America instead of from Asia as was formerly believed. On the other hand, that there has been close contact between Siberia and northwestern America is suggested by house forms and in other ways. One of the problems is to trace the northwestern limit of the use of pottery.

An "Ethnographic Study of the White Settlers" was discussed by Dr F. C. Shrubbsall, who spoke of what was being done to improve the breeds of live stock and the varieties of grain in contrast with the lack of interest shown in the improvement of the human race. The speaker urged upon the Government the importance of taking preventive measures while the Dominion was still young as a means of avoiding the necessity of remedial measures which confronts the peoples of the Old World.

Dr G. B. Gordon contributed two papers on American anthropology. The first of these was a review of the researches into the history of man on the North American continent that have been carried on under the auspices of the Government and institutions of the United States. He called attention to certain far-reaching changes that have been witnessed in the attitude of the educated classes, and especially of the institutions of learning, with reference to those studies that fall directly within the province of anthropology, changes which it is believed are destined to affect very profoundly those interrelated branches of learning, which, like history and sociology, are most directly affected by the anthropological method. These tendencies are made manifest by the history of anthropological activities in those quarters that are most influential in shaping educational development and methods of research.

The work of the Smithsonian Institution through the Bureau of American Ethnology has been a prominent factor in promoting that

interest in the study of the native races which has been carried on with successful results by the great universities and museums of the country. Nothing in the history of anthropology is more significant than the present condition of archeological studies in the great universities as contrasted with that which obtained a few years ago. Until very recently the name of American Archeology was obnoxious because it was foreign to European civilization. To-day in the same quarters the chief archeological interest lies in the prehistoric period; and with a realization of the unity of all problems of human development comes a rapidly increasing interest in American Archeology as a subject of study. This is the condition of archeological science in American institutions of learning to-day; and as an index of this condition the Archaeological Institute of America, which for many years has maintained schools at Athens, Rome, and Jerusalem, has only last year established a similar school in New Mexico and is making an effort to establish another in the City of Mexico, the object of these two schools being the study of American Archeology.

After reviewing the work done by Harvard, Yale, Columbia, the University of California, the University of Pennsylvania, the American Museum of Natural History, and the Field Museum of Natural History, Dr Gordon called attention to the services rendered to anthropology by private individuals, and paid a special tribute to Mr George G. Heye of New York, whose collections of American archeology and ethnology assembled during the last two years may be compared in magnitude and importance with those gathered during the same period by some of the larger museums. The results achieved in this instance may serve to indicate what may be done in American Archeology in a short time by one man who is possessed not only of the necessary means but also the necessary energy intelligently directed. These splendid collections are now being installed in the University of Pennsylvania Museum, where Mr Heye has been elected chairman for American Anthropology on the Board of Managers in recognition of his conspicuous services to science.

In similar terms the speaker referred to the archeological work done by Mr B. Talbot B. Hyde among the ruined pueblos of New Mexico, where a splendid collection of pottery and other art objects

was obtained, which has been divided between the American Museum of Natural History in New York and the University Museum in Philadelphia.

Dr Gordon's second contribution was based on his "Ethnological Researches in Alaska." In 1907 he made an expedition on behalf of the University of Pennsylvania Museum into the Kuskokwim valley in Alaska to investigate the natives of that region, who, owing to the remoteness of their habitat from the white man's influence, preserve in a marked degree their aboriginal characteristics. The route followed was from Dawson westward by way of the Tanana and Kantishna rivers to the headwaters of the Kuskokwim, thence down the entire length of that river to the coast. In the upper valley of the Kuskokwim were found tribes preserving the characteristics of the widespread Dené stock. About seven hundred miles from the mouth of the river, Eskimo influence began to be felt; two or three hundred miles farther down, Eskimo customs had entirely replaced the native customs even in those communities where there was little or no mixture of Eskimo blood. The tendency of the Dené in this region to adopt Eskimo culture which has intruded from the Bering sea-coast is strongly marked, and shows that the Eskimo culture is the more aggressive and the more advanced. At the mouth of the Kuskokwim, the Eskimo communities have retained in full vigor their peculiar customs and mode of life, because that part of the Alaskan coast has not been visited by trading vessels or by whalers.

The general health and physical welfare of these communities, as well as of those on the Kuskokwim, were noticeably better than in those localities where the natives have been in continued contact with the white man's influence, as, for instance, on the Yukon and on Norton sound. At the same time the mental and moral state of the former population is decidedly better than that of the latter. All observations tended to show that the inhabitants of Alaska, both Dené and Eskimo, undergo physical and moral deterioration under the influence of civilization.

Mr Charles Hill-Tout gave an account of his researches into the "Ethnology of the Okanákén," the easternmost division of the Salish of British Columbia. The subject was treated from the

standpoint of habitat and old settlements, relation of the common language spoken by the whole division to contiguous linguistic divisions of the same stock, material and social culture, totemism, evidence from material culture and language bearing on the origin of the stock before the division into its present grouping. The linguistic evidence points to a connection with Oceanic stocks. Specimens of Okanāken myths were given, also an outline of the grammatical structure of the Okanāken dialect.

Professor E. Guthrie Perry exhibited an interesting series of copper implements recently found together in the bed of the river at Fort Francis, Ontario. The fact that one of the pieces is tipped with silver leads Professor Perry to conclude that the material from which these implements were made came from the northern shore of Lake Superior.

Another communication of special local interest was that by Professor Henry Montgomery on the "Archeology of Ontario and Manitoba."

Much of the seventeenth century's history of that portion of Canada now known as Ontario has been verified, and additional information obtained about the Iroquois, Hurons, and Algonquian tribes, and also the earlier inhabitants by the archeologists Taché, Daniel Wilson, A. F. Hunter, and David Boyle. Some of the collections are in the Toronto Provincial University, others in the Toronto Provincial Normal School, the Dominion Survey Museum in Ottawa, and Laval University, Quebec. There have been several occupancies of the province. The following are the principal kinds of remains found: Marine and freshwater shell objects, bone awls and knives, arrowpoints, stone knives and scrapers, stone wedges and chisels, stone gouges, stone pipes, gorgets or banner stones (generally made of huronian slate), amulets (or perhaps ceremonial stones), pipes of pottery of many patterns, as well as vessels of pottery, the last being mostly broken. Mention was made of a large amulet or ceremonial stone nineteen inches in length, and made of limestone, which was recently found beneath the stump of a large oak tree the cross-section of which had two hundred and eighty rings of growth. The wedges, chisels, and gouges are of good form and finish, and are plentiful. All these objects of manufacture have been found on or near the surface of the ground.

Ossuaries or circular bone-pits, fifteen to twenty feet in diameter and six to eight feet in depth, have been discovered near Georgian bay and in a few counties bordering Lake Ontario. The reader of the paper referred to his work in these ossuaries in 1876 and 1878 in Durham and Simcoe counties. Articles of French manufacture occurred in some of them, and the crania in all are of the Huron form. Some ancient skulls found in other parts of Ontario were described as being of a very inferior type, the frontal portion being extremely low and narrow, and the supernumerary bones numerous.

Primitive paintings may be seen on the faces of rocks along the shores of a few of the northern lakes. It is not known by what people they were made.

There are aboriginal tumuli in southeastern Ontario and also in the vicinity of Lake of the Woods and Rainy river. Already some interesting things have been obtained from them in the way of pottery vessels, and of copper and stone implements and ornaments. Large oak trees grow upon some of these mounds. One long mound in eastern Ontario has been described as a "serpent" mound, but the writer, by a personal examination of this mound, has not found satisfactory evidence that it was intended to represent a serpent. It bears very little resemblance to the famous Serpent Mound of Ohio. It is, however, undoubtedly artificial, and shows a relationship with certain mounds of the Province of Manitoba.

The archeological remains in Manitoba may be regarded as belonging to two classes, namely, those objects, such as grooved stone mauls and hammers, stone disks, arrowpoints, and broken pottery, found upon or near the surface of the ground, and, secondly, tumuli, earthen ridges, and house enclosures. The tumuli are sometimes of considerable size, and often have human skeletons with vessels of earthenware and implements, and ornaments of bone, shell, stone, antler, and copper buried within them. The specimens obtained from these mounds are usually few in number, but they are very characteristic and instructive in Manitoba and vicinity. Long, wide ridges of earth occur in the province, the largest found being about 2000 feet long, 46 feet wide, and three feet high. Of the many examined by the writer one such ridge in Dakota measures 2688

feet in length. It is probable that these earth ridges were used for ceremonial purposes.¹

Two kinds of burial mounds occur, and also mounds which were used as house-sites, only objects which were of domestic use being found in the latter. A burial mound, which the writer explored last year, had a definite structure of considerable interest. A burial pit, three feet and six inches in diameter and two feet deep, was found a little southeast of its center. The pit contained five human skeletons, one large earthen pipe decorated by a groove around its bowl and transverse grooves in the lower side of its horizontal stem. Its bowl is $2\frac{1}{4}$ inches across and $3\frac{1}{4}$ inches high. There were also with the pipe and skeletons a barbed flint arrowpoint, marine shell (two species) beads, one polished round stone the size of a very large marble, and a valve of the river shell *Unio* containing some red ocher. The burial pit extended through the soil and down into the subsoil. Around the pit, and forming a circular area of about twelve feet in diameter, the soil consisted of a purplish solidified mass. Upon this and extending over the pit was a calcareous layer from three to six inches in thickness and about twelve feet in diameter. There were two large bowlders above the calcareous layer, and all were covered with the rich black prairie soil. Within this black soil, and about two feet above the calcareous layer, was a layer of yellow clay from four to six inches thick and about equal in extent to that of the calcareous layer covering the pit below. Usually in these mounds there is a variety of objects—shell pendants and necklaces, spoons, beads, bone armlets, stone pipes, and pottery vessels. The two most characteristic objects buried with the human remains are small pottery urns of coiled ware decorated externally by a spiral furrow, and the straight, tubular, catlinite pipes. The marine shell beads and the Michigan native copper objects are also somewhat characteristic. In addition to the three classes of tumuli and the ridges there are communal house-sites or large enclosures. The largest measured by the writer was 80 feet wide and 225 feet long. The wall of this enclosure is now about 10 feet thick and 18 inches high. There are many cromlechs, or stone-

¹See Professor Montgomery's paper, *Remains of Prehistoric Man in the Dakotas*, *American Anthropologist*, 1906, vol. 8, pp. 640-651.

circles, in Saskatchewan, and probably some occur in Manitoba. Possibly the Arikara of Dakota were related to the builders of the more ancient of the burial mounds in this region. A copper wedge, a sheet of native silver and copper, an amulet and other specimens from Ontario, as well as many photographs and drawings of Manitoba mound products, were exhibited to the members of the Association.

In "The Blackfoot Medical Priesthood," Dr John MacLean defined medicine-men, or, to use a better term, the medical priesthood, as shamans, conjurers, doctors, prophets, and priests, and gave the different grades in the priesthood. The subject of initiation was dealt with, and the course of instruction outlined. Previous to this the would-be medicine-man undergoes a period of voluntary seclusion, during which he fasts and sees visions. The dress and facial decoration of the fraternity was described, and the sacred numbers were explained. The subject of disease was treated, the Blackfeet being particularly prone to smallpox and tuberculosis. The causes of the diseases were discussed, especially the influence which the belief in evil spirits has upon the minds and bodies of the natives. The author then treated of the medicine-man in connection with religion, such subjects as animism, sacred stones, sacrifice, spiritualism, hypnotism, prophecy, and incantation being discussed, as well as medicine songs, charms, and amulets. Lastly, he considered native medicines and remedies, and discussed the value of the work of the medicine-men among the natives, and the influence exercised by them on the native religion.

The Western Hemisphere did not by any means monopolize the attention of the Section. In addition to the reports of standing committees, already noted, a number of papers were presented, and on a variety of subjects. Mr D. G. Hogarth sent a paper giving the results of "Recent Hittite Research," which confirm the theory that the original home of the Hittites was Cappadocia. The city of Boghaz Kai was the center of the confederacy, and contained the royal archives of the Hittite kings from the fifteenth to the twelfth centuries B. C.

Dr T. Ashby presented a communication on "Prehistoric Antiquities in Malta." Excavations have been conducted by the

Government of Malta on the Corradino Hill, in which the coöperation of the British School at Rome has been cordially welcomed, and its investigations assisted in every way; the supervision has been entrusted to the director of the School and to Mr T. E. Peet, student of the School, assisted by the constant coöperation of Dr T. Zammit, curator of the Museum. The great megalithic buildings of Gigantia, Mnaidra, and Haġar-Kim, which Dr Arthur Evans considers to have been buildings of a sepulchral character in which a cult of departed heroes gradually grew up, and other smaller prehistoric monuments of the islands, have been carefully described by Dr Albert Mayr, though others have since become known, but excavation was needed in order that many essential facts might be ascertained. The investigation of the rock-cut hypogeum of Halsaflieni, the architectural features of which imitate in the most surprising way those of the sanctuaries above ground, for the first time has produced an adequate series, available for study, of the prehistoric pottery of Malta; for from the excavations of Haġar-Kim but little, unfortunately, has been preserved. Dr Zammit and Professor Tagliaferro will shortly publish adequate descriptions of the hypogeum and its contents. Of the three groups of megalithic buildings on the Corradino Hill, two had been already in great part excavated in the '90's, and the complete clearing of the upper one, which apparently was of a domestic character, was the first work undertaken in May. Its plan is extremely irregular, and much of it can hardly have been roofed unless in thatch or woodwork. A considerable quantity of pottery was found, very similar in character to that of Halsaflieni, and belonging, like it, to the late neolithic period. It has some affinities with pottery recently found in Terranova, the ancient Gela, in Sicily, but in many respects is unique. Many flints were found, but no traces of metal. A stone pillar was found in one portion of the building, some 2 feet 8 inches long and about 10 inches in diameter, which may have been an object of worship. The excavation of a second and smaller group, nearer the harbor, had been already completed by Dr Zammit and Professor Tagliaferro; but a third, farther to the south, on the summit of the ridge, had never been examined, and it, too, was thoroughly investigated. An even larger quantity of pottery of the

same character was found, with flints and fragments of stone basins, etc. It approximates more in style to the larger megalithic buildings of the island, and has a façade with a more pronounced curve than at Haġar-Kim, constructed of very large blocks, but much ruined. The interior consists of several distinct groups of rooms (often apsidal), not intercommunicating. The construction is of rough masonry, with large slabs at the bottom, and smaller blocks higher up; the walls begin to converge, even at the height (five to six feet) to which they are preserved, as though to form a roof. Into one of the rooms a very curious trough has at a later period been inserted; it is cut in a block of the local hard stone, 8 feet 9 inches long, 3 feet 8 inches wide, and is divided by six transverse divisions into seven small compartments, which show much trace of wear. The object of it is not as yet apparent. Another more carefully constructed room, perhaps contemporary with the trough, has its walls partly of large slabs, partly of narrow pillar-like stones. The floors of these rooms are sometimes of cement, sometimes of slabs. Many bones of animals were found, but only one human skeleton, and that in disorder and at a comparatively high level. The use of standing slabs at the base of walls, with coursed masonry above, visible in these buildings, finds its parallel in the "giants' tombs" at Sardinia, the prehistoric huts of Lampedusa, and in many other places.

Dr F. C. Shrubbsall spoke on "The Influence of Geographical Factors on the Distribution of Racial Types in Africa." The movement seems to have been from north to south, following the course of the mountain ranges, and across the continent eastward and westward, following the great river systems. The influence of the nature and configuration of the land and of climatic conditions upon the natives was explained. The presence in certain regions of the tsetse fly and other parasitic pests led to modified conditions in the animal life and thus directly or indirectly influenced the occupancy of these sections by the native races.

"A Study of Malaria in Ancient Italy," by Mr W. H. S. Jones, was read by Dr Shrubbsall in the absence of the author. Malaria has exerted a powerful but unmeasured influence on the history of Rome. It is caused by a mosquito. The patient becomes immune

only after many years. In order to escape from the mosquito, which cannot fly far, towns were built on the hills. At a very early period Rome was marshy. Whether it was malarious before 500 B. C. is an open question, although the disease is thought to have been introduced by merchants from Africa as early as 600 or 700 B. C. Continuous wars brought about conditions that tended to increase the breeding of mosquitos and thereby the prevalence of malaria. The periodicity of the fever gave rise to the belief that it was a divine visitation. There was thus a Goddess of Fever. The author cited early writers who mention fever.

A communication describing "A Cult of Executed Criminals in Sicily" was presented by Mr E. Sidney Hartland. Certain of the Sicilian peasantry believe in the intercessory powers of beheaded malefactors, or *Decollati*, to whom petitions are addressed. Instances ranging from the prayers of the love-lorn maiden to appeals for protection in times of attack by robbers were cited by the author. Dr D. Randall-MacIver's paper on "A Nubian Cemetery at Anibeh" was read by Professor Gordon, and that of Mr F. M. Dawkins on "The Excavations at Sparta of the British School at Athens," by Professor Myres.

Many social functions were held in connection with the week's program at Winnipeg, among them being receptions by Lord and Lady Strathcona, the Lieutenant-Governor and Lady McMillan, Mr C. C. Chipman, Commissioner of the Hudson's Bay Company for North America, and Mrs Chipman, Chief Justice and Mrs Howell, Principal and Mrs W. J. Black, and the local executive committee. Excursions were also made to many points of interest in and about Winnipeg.

At the close of the meeting about 180 members, including the officers and guests of the Association, were invited to take part in an excursion from Winnipeg to the Pacific coast and back. This was made possible through the generosity of the Western provinces. The schedule was planned so as to include visits to the capitals and largest cities of the provinces, as well as mountain resorts like Banff, Lake Louise, and Glacier. The stop at Gleichen afforded an opportunity to see a group of Blackfeet Indians. The members highly appreciate and will long remember the courtesies extended by the

reception committees at Regina, Moose Jaw, Calgary, Vancouver, Victoria, and Edmonton. They were also much impressed by the rapid material development of the country and its splendid endowment of as yet unmeasured resources.

YALE UNIVERSITY
NEW HAVEN, CONN.

PROCEEDINGS OF THE ANTHROPOLOGICAL SOCIETY OF WASHINGTON

Meeting of October 13, 1908

The 422d regular meeting was opened by Dr Walter Hough, the newly-elected President.

The President announced the death, on August 11, 1908, of Dr Ainsworth Rand Spofford, assistant librarian of the Library of Congress and for many years an active member of the Anthropological Society, and stated that word had just reached the Society of the death of the Reverend Myron Eells, an honorary member of the Society, at Twana, Washington, during the year preceding. Announcement was also made of the election of five active members.

The president then introduced the speaker of the evening, Major CHARLES E. WOODRUFF, Surgeon U. S. A., whose subject was *Anthropological Studies on the Effects of Light*. Major Woodruff briefly reviewed the various advances which have been made in the study of the effect of light on organisms. He gave special attention to the value of light in the treatment of tuberculosis. It was thought, said Dr Woodruff, that fresh air, good food, and abundance of light were the three most beneficial things in the treatment of this disease. He had reached the conclusion that the last factor was harmful, that the success of certain cloudy regions was due to the lesser degree of light, and that brilliant deserts increased the mortality to an alarming extent.

The paper was discussed at some length by Dr McGee, Dr Hrdlička, Dr Lamb, Mr W. H. Seaman, and others.

Meeting of November 10, 1908

The 423d regular meeting was a memorial meeting for *Professor Otis Tafton Mason*, whose death occurred November 5, 1908.

After appropriate introductory remarks by the President, DR THEODORE N. GILL of the National Museum told of his early acquaintance with Professor Mason and his close affiliation with him in many of his scientific investigations. Professor Mason was, he said, in his early years very much interested in the subject of elementary education. He was opposed to the theory of evolution, but the speaker believed that his own lectures attended by Professor Mason, which involved the principles of

this doctrine, in a measure changed his views on this subject. But the speaker added, "For some reason or other, possibly from religious convictions, I do not think he was ever thoroughly convinced."

Dr F. W. TRUE of the National Museum dwelt upon the orderliness of Professor Mason's work and on the fact that he always strove to correlate technical work with common everyday life. He spoke also of his frequent use of biblical allusions and of his strong vein of humor.

Dr ALEŠ HRDLÍČKA read from Professor Mason's autobiography, prepared several months before his death. He also spoke of the great interest the deceased had taken in his own anthropological investigations and referred sympathetically to the domestic afflictions he had endured, the death of a son in the prime of life, the loss of his wife, and finally the death of a daughter.

Dr D. S. LAMB of the Army Medical Museum spoke of many short papers given out by Professor Mason from time to time which were of great interest and utility to the people of Washington. He reminded his hearers that he had been a prime mover in the organization of the Anthropological Society of Washington early in 1879, and ever continued a loyal and valued member.

Mr CHARLES K. WEAD of the United States Patent Office dwelt on Professor Mason's lovable character and the cordial helpfulness with which he met those who came to seek his aid.

Several other members of the Society and guests made remarks and related anecdotes connected with Professor Mason's life, after which a committee, consisting of Dr Lamb, Dr Hrdlička, and Mr George R. Stetson was appointed to draft resolutions suitable to the occasion. As presented to the next meeting of the Society, these resolutions were as follows:

"Whereas, the Anthropological Society of Washington has lost in the death of Professor Otis T. Mason one of its founders, former presidents, and most able, helpful, and active members, therefore be it

"Resolved, that the Society voices sincere regrets, participated in by all its members, for the loss of so valuable and honored a worker, to whom it owes in part its existence, its first by-laws, and a long and important participation in its activities.

"And that the Society further expresses its highest estimate of Professor Mason's lasting worth to American ethnology, of his many and enduring publications in that line, of his important rôle in the organization and finally direction of the anthropological department with its exhibits in the United States National Museum, and of his successful efforts at popularizing, in a dignified way, the science of man and his activities."

Meeting of November 24, 1908

Before the regular program of the 424th meeting was taken up, Dr D. S. LAMB presented an interesting letter accompanied by Indian drawings.

Mr J. D. McGUIRE spoke of his visit to the eastern outlet of Moosehead lake during the previous summer. He said that owing to an unprecedented drought the level of the lake was abnormally low and in the strip of additional shore laid bare numbers of worked flints were to be found, among which were some complete implements. This account gave rise to a discussion regarding the weathering of stone, participated in by Dr McGEE and Mr WARREN K. MOOREHEAD.

Dr HRDLIČKA spoke of a find of bones on the bank of the Potomac below Fort Washington.

Dr HRDLIČKA then gave a synopsis of the results of his investigations among the various Indian tribes of the United States for the International Congress on Tuberculosis. The results of these observations are embodied in Bulletin 42 of the Bureau of American Ethnology.

Meeting of December 22, 1908

At the 425th regular meeting Dr J. WALTER FEWKES delivered a lecture, illustrated with lantern slides, on *The Excavation and Repair of Southwestern Ruins*, particularly those of Casa Grande, undertaken by him for the Smithsonian Institution during the two preceding winters. The prehistoric settlement of which Casa Grande is the best preserved building was found to include several rectangular walled enclosures, or compounds, in an area of several acres. Five of these compounds were excavated and repaired. Views were shown of mounds before excavation and others illustrated bird's-eye views of the same in their present condition. The character of the repair work, especially the means adopted to preserve the walls from the elements, was described and illustrated.

Meeting of January 5, 1909

At the 426th regular meeting Mr FRITZ VON HOLM gave an account of his expedition to Sian-Fu in the upper Yangtse-kiang valley, China, to obtain a replica of a Nestorian tablet known to exist there. This tablet is dated A.D. 781 and contains an inscription of about 2000 Syriac characters, giving, among other things, the part of Asia from which the body of Christians who erected it had come, and a list of the benefits conferred on them by the Chinese emperors. This inscription is on the front and sides. At the top is the cross and several dragons. It stands ten feet

high and weighs about two tons. The stone was evidently on the site of a Nestorian church or monastery, but later this was replaced by a Buddhist temple and the stone lost sight of. When Catholic missionaries reached China, one of them noticed it and sent an account to the Pope. Afterwards the stone disappeared, but was rediscovered in 1625 and set upon a stone pedestal in the shape of a turtle like a number of other tablets in the vicinity, though this is the only one of Nestorian origin. Protestant missionaries tried to induce the Chinese authorities to protect this stone, and an appropriation was actually made for that purpose, but the shelter placed over it was so flimsy that it soon disappeared. Mr Von Holm soon perceived that it would be impossible to obtain the original, so he obtained the services of four expert native stonemasons and had them procure a slab of stone from the quarry whence the original must have been taken, out of which they made a perfect copy of the tablet. With great labor and considerable anxiety lest the project be blocked by the Chinese government, this replica was carried down to the sea, a distance of one thousand miles, and, thanks to assistance on the part of the Russian legation, finally shipped in the Standard Oil steamer *Kennebec* to Boston, whence it was transferred to the Metropolitan Museum of Art in New York. Meanwhile the interest in this stone which Mr Von Holm's visit had created induced the local officials to have it removed to the Peilin, or "forest of tablets," within the city, where it will be protected from the weather and its life prolonged many years. The lecturer also gave some interesting information regarding the Chinese Jews, several thousand of whom existed in China three hundred years ago. An attempt to revive this sect in 1902 resulted in failure, owing to the fact that they have lost their sacred manuscripts.

Dr I. M. CASANOWICZ of the National Museum followed this paper with some *Remarks on Nestorianism*, largely intended in illustration. He said that the Nestorians, unlike most Christians, were fostered by both Persians and Arabs, and at the zenith of their power under the latter in the thirteenth century the Catholicos, or supreme head of the Nestorian Church, had under him twenty-five metropolitans, each of whom in turn was over no fewer than five bishops. The sect had penetrated to China, Tartary, India, and Ceylon, but the invasion of Tamerlane broke their power, and from that time they declined rapidly both in wealth and in influence. At the present time some of those in India and about 20,000 in Syria have joined the Church of Rome, while many in Persia have joined the Russian Church. At the present day about 70,000 remain independent. Their Catholicos lives in Kurdistan, but has only one metro-

politan and ten bishops under him. Of late Episcopalians and the American Board of Missions have done much for them.

The papers were discussed by Dr Folkmar, Mr Mooney, and the President.

Meeting of January 19, 1909

At the 427th regular meeting Dr Lamb exhibited a hat and sandals from the Mandingos of Africa, received through a medical student.

The President then introduced Mr JUUL DIESERUD of the Library of Congress, who read a paper on *The Scope and Content of the Science of Anthropology*, in connection with his recently published book on that subject, which consists of a detailed classification, a select bibliography, and an explanatory introductory essay. He insisted on the necessity of limiting the science to the natural history of man and his races, as conceived by leading anthropologists in this and other civilized countries, and advocated the binary subdivision into physical anthropology, or Somatology, and Ethnical Anthropology. In the former subdivision he would include: 1, anthropology or zoological anthropology; 2, paleoanthropology or prehistoric anthropology; 3, anatomical anthropology; 4, physiological anthropology; 5, racial psychology; 6, racial embryology; 7, racial pathology; 8, social physical anthropology; 9, systematic or taxonomic anthropology; while Ethnical Anthropology should cover: 1, ethnical or folk-psychology; 2, ethnology or culture anthropology; 3, archeology or paleoethnology; 4, anthropogeography; 5, ethnography (including local archeology and somatography). The speaker pleaded at some length for the exclusion from the subject of general human anatomy, physiology, embryology, and pathology, and even of psychology, both philosophical and experimental, claiming that the best authorities, as shown by his bibliography, now generally left those disciplines as branches of general biology. Only when the sciences in question are used for the elucidation of the problem of man's relation to the rest of the animal world, or of the interrelation between the different races and peoples of the globe, a piece of real anthropological literature is the result. As regards ethnology and ethnography, Mr Dieserud would follow the lead of Brinton, Reclus in the *Encyclopædia Britannica*, and so many others, especially the German anthropologists, making the latter cover the monographic descriptive study of the various tribes and peoples, their manners and customs, material and mental culture, and, for historical reasons, even their physical characteristics (somatography), while the former is the corresponding comparative, deductive study, exclusion being made for physical man, which here belongs to somatology. He emphasized

the necessity of adopting the view of Haddon and others, who introduce the term systematic or taxonomic anthropology for the classification of the main human varieties or races from a physical point of view, restricting ethnology to the mental side of man. The speaker concluded by answering some of his critics in library journals, who were inclined to think that he had given anthropology too wide a scope, and with remarks on the great importance of the study of man for philosophy, religion, politics, and the general conception and conduct of life.

The paper was discussed at considerable length by Dr McGee, Dr Fewkes, Dr Swanton, and Dr Folkmar.

Meeting of February 2, 1909

At the 428th regular meeting Dr JOHN R. SWANTON, of the Bureau of American Ethnology, read a paper entitled *A Newly Discovered Siouan Dialect*. Dr Swanton stated that in a recent visit to Marksville, La., for the purpose of correcting and amplifying the Tunica linguistic material collected by the late Dr A. S. Gatschet more than twenty years ago, he discovered, among the few Indians of that tribe still living, a single survivor of a tribe known to history as the Offogoula, or Ofagoula. These people formerly lived on the Yazoo river, about a dozen miles above its junction with the Mississippi. From circumstantial evidence alone it had been thought that their language was related to the Muskogean linguistic family, that to which the Choctaw, Chickasaw, and Creeks belong, but the fairly extensive vocabulary, which this woman, Rosa Pierrette, was able to furnish, shows that it is a Siouan dialect, related not to its nearest Siouan neighbor, Quapaw, but to the Biloxi of lower Pascagoula river, and the Siouan dialects of the Carolinas. It is peculiar in substituting *f* for *s* and *te* for *y* in certain situations. The proper name of the tribe is Ofo, which probably has nothing to do with the Choctaw *ofe*, "dog," with which Du Pratz identifies it. The ending *-ogoula* was adopted from the Mobilian trade jargon and is no proper part of the tribal designation.

The paper was discussed by the President, and by Dr McGee and Dr Kober, the last recommending strongly that a phonetic survey of American languages be made before it is too late.

Dr I. M. CASANOWICZ, of the National Museum, exhibited a silver lamp with eight burners used by the Jews in the Hanuga ceremony, the origin of which was explained at some length. This lamp is the property of Ephraim Benguiat of New York. Dr Casanowicz also showed a design representing a globe made of the book of Ecclesiastes in Hebrew characters in a single line.

Mr EDWIN P. UPRAM, of the National Museum, exhibited and gave the place of origin of a series of stone scrapers and a series of stone axes. A general examination and discussion on the part of the members of the Society followed.

Meeting of February 16, 1909

The 429th regular meeting was addressed by Mr ROBERT GROSVENOR VALENTINE, Assistant Commissioner of Indian Affairs, who spoke on *The Unspoiled Indian*, illustrating his remarks by the specific instance of the San Carlos Apache. He said that the Indian had suffered less on account of that of which he had been despoiled than from the benefits which had been unwisely conferred upon him. He declared that he must be educated through his home, and therefore it is better to locate schools in Indian neighborhoods than to remove the Indians from their homes and educate them apart as was the old Government policy. In opening lands next to Indian reservations for settlement he believed it was important that the right kind of white men be induced to locate there. He favored opening such lands block by block to companies of settlers who had previously been neighbors rather than the present plan of throwing open all at once and bringing on a spectacular rush from all quarters.

The address provoked a lively discussion, participated in by Dr Merriam, Dr McGee, Dr Hough, and the speaker.

At its conclusion the President exhibited some Navaho belts and blankets, a Navaho tray of basket-work, and an Apache jar. Dr Merriam exhibited some head-dresses worked by the California Indians out of feathers of the red flicker.

Meeting of March 2, 1909

At the 430th regular meeting Mr C. H. Robinson exhibited a number of pieces of pottery from Alamakee county, Iowa, besides an ornamental piece obtained from a Mohave woman, and a glazed pot from Mexico.

The President then introduced Mr CHARLES F. WARREN, of the Bureau of Labor, the principal speaker of the evening, who gave an attractive lecture of popular character on *Mexico, Its People and Customs*, abundantly illustrated with lantern slides. Mr Warren touched on the cathedrals, public buildings, gardens, markets, and characteristic customs and modes of life in the principal cities in the heart of the southern republic, such as Mexico city, Cuernavaca, Puebla, Guadalajara, Guajuato, and Oaxaca, gave some fine views of the ruins of Mitla and some superb examples of Mexican scenery. Finally a word was added re-

garding the passing of the old Mexican life and the coming of the new under President Diaz.

Meeting of March 16, 1909

The 431st regular meeting was devoted to an address by Professor WILLIAM H. HOLMES, chief of the Bureau of American Ethnology, on *Outlines of South American Ethnology*. Professor Holmes was a member of a delegation sent to Santiago, Chile, by the Department of State to attend the First Pan-American Scientific Congress, December 25, 1908, to January 5, 1909, where he represented also the Smithsonian Institution and the George Washington University. During the trip, which occupied nearly four months, he improved the opportunity of visiting a number of museums in England, Portugal, the Argentine Republic, Chile, and Peru, in which are preserved collections of American ethnological and archeological material, and also had the good fortune to see something of the native peoples, especially those of Bolivia and Peru. Professor Holmes prefaced his paper by a brief sketch of the journey, illustrated by many water-color drawings made by the way, afterward presenting a large number of lantern views of the peoples and their antiquities. The Santiago Congress was briefly reviewed, and emphasis was laid on the importance of the meeting scientifically and politically. The interesting Tertiary and post-Tertiary history of the southern continent was sketched, and the extraordinary fauna of these periods and theories of the association with them of the human species were outlined. It was especially regretted that opportunity had not been afforded, during the brief stay in the Argentine Republic, of examining critically the evidence advanced by Ameghino and others in support of the reported discovery of human remains in the Pampean and Tertiary formations. The discovery and conquest of Peru and the overthrow of the empire of the Incas were passed in rapid review, and the character and culture of this remarkable people characterized. Especial attention was given to the ancient city of Tiahuanacu, sometimes referred to as the American Stonehenge, situated near the southern shore of Lake Titicaca — the most remarkable of the prehistoric South American cities, if not of all aboriginal America. The remarkable contrast of the plateau peoples and their civilization with the peoples and culture of the eastern slopes of the Cordillera and the vast lowland region drained by the Orinoco, Amazon, and La Plata was pointed out as a matter of exceptional scientific interest. A more striking example could hardly be recalled of the profound influence of environment upon peoples, for it is seen that the tribes occupying a land rich in natural resources remained nomads and savages gathering the plentiful fruits of the forests, while

those whose lives were cast in the bleak plateaus where there was a constant struggle for existence, acquired habits of industry and thrift, developed social and political systems of a very high order, and built temples, fortresses, and tombs of surpassing grandeur.

Mr W. E. SAFFORD of the Bureau of Agriculture added some particulars derived from his own experience in South America.

Meeting of April 6, 1909

The 432d regular meeting was opened by Dr O. F. COOK, of the Department of Agriculture, whose subject was *New Chapters in the History of the Coconut Palm*. It has long been thought that the coconut palm presents a perfect example of adaptation to a littoral environment, but this idea is delusive. The tough outer rind which is popularly supposed to have been developed as a protection against sea water is really to guard the coconut when it falls, and give it favorable conditions for germination. Coconuts require a certain amount of salt in the soil, but this condition is satisfied by soils in some interior localities as well as on the seacoast. Considerable sunshine is also needed. This however is met better in arid regions than by a coastal habitat, and the care with which the milk is protected would argue in the same direction. Far from being a wild plant the coconut does not appear to thrive long away from human beings, and in spite of the supposed diffusion of the tree by oceanic currents no instance of the kind is known. A consideration of the varieties of coconut palms and the method of their occurrence points to the same conclusion. Against De Candolle's hypothesis of an old world origin for the coconut, the speaker brought forth documentary evidence that this palm was spread much wider in America than De Candolle had supposed, so widely as to preclude the possibility of a recent introduction into America. On the other hand, certain Polynesian traditions were cited pointing to an eastern origin for the coconut trees among the inhabitants of the Pacific islands.

Mr Safford in discussing the paper contended for an East Indian origin. He called attention to the intimate connection between this tree and the entire social and economic fabric of Polynesian culture. The absence of coconuts from Peruvian graves he considered a strong argument against an American origin, and the Polynesian traditions cited by Dr Cook, he thought, were due to the fact that the oceanic currents in the mid-Pacific set westward, leaving wreckage, etc., upon the eastern coast of the islands.

While agreeing with the speaker regarding the origin of the coconut

in an arid country and its adaptation to human needs through human agency, Dr McGee believed that we are very far from the end of the problem which it presents. Dr Folkmar also discussed the paper briefly, and Dr Cook made a short reply to the criticisms and questions.

Mr ARTHUR B. RICE contributed a short paper on *Cannibalism in Polynesia*. He gave a brief historical and geographical résumé to demonstrate the wide distribution and antiquity of the practice, but showed at the same time how it had been brought down to modern times in Polynesia. Within this area, however, great differences are to be found, for while Fiji is the classic land of cannibalism, in the very next group of islands, Tonga, it was not practised until late times. It was common in the Marquesas islands, but held in abhorrence in Hawaii. In Fiji cannibalism was part of the state religion, and it was demanded by the gods. Revenge upon enemies was the most constant reason for exercising it, but each island had a black-list from which victims were taken on occasion. During a single feast of which there is a record 200 baskets of yams, 200 hogs, and 200 human bodies were consumed. Those who had died a natural death and the bodies of chiefs were never eaten. Cases were also cited from New Caledonia, the New Hebrides, Samoa, and New Zealand. The absence of animals from which a sufficient meat diet could be obtained was cited as a probable stimulant to the great extension of cannibalism in this area, and the modern introduction of such food a contributing cause to its extinction. In New Zealand cannibalism was accompanied by one redeeming feature, an intimate knowledge of human anatomy and skill in surgery. The paper was discussed briefly by Dr Swanton.

The meeting concluded with an exhibition of a collection of Chitimacha baskets recently acquired by the National Museum through Mrs Sidney Bradford of Avery's Island, Louisiana, and an explanation of the designs upon them.

Meeting of April 20, 1909

At the 433d regular meeting Dr DANIEL FOLKMAR, formerly lieutenant-governor of the province of Bontoc, Philippine islands, presented a paper on *Some Philippine Physical Types*. This paper, announced by error as being on "The Peoples of the Philippines," was prepared in 1903 to summarize the anthropometrical work done by the author in Bilibid Prison while serving as anthropologist under the Philippine government. A briefer account has already been published in his "Album of Philippine Types" (Manila, 1904). The author first described a method of mechanical selection of natives by rank and file, by which a

close average of the height of a given group of a hundred or more men could be obtained by measuring only twenty. Of the 3000 and more prisoners, 838 were actually measured. The results seem to justify the following classification of tribes, so far as physical data can go. It is evident that the Christians and Moros form a homogenous stock, typically Malay. This may be called the "Neo-Malay" stock of the Philippines to distinguish it from the "Primitive Malayan" tribes. The Moros, like the Tagalogs, stand near the average of the group. Further, a distinct increase in height and in head-length is observed as one passes from the south to the north, or rather from the "Lowlanders" or coastal tribes to those most modified by the "Highlanders," "Primitive Malayans," or "Indonesians" of the interior. The existence of two types amongst both the Ilocanos and the Moros might be thus explained. There are then two fairly distinct groups called here the "Northerners" and the "Southerners." The latter group, being mainly "coastal," takes in most of the Ilocanos. The Zambals are on the border-line between the two groups, both physically and geographically. The chief difficulty is to account for the extremely broad heads of the tallest people, the Pangasinans. They certainly present a subtype distinct from that of their neighbors, the Pampangas.

		Number of cases	Height (meters)	Cephalic index	Nasal index	Span (height in 100)	Shoulders, width (meters)
Northerners	Pangasinans	40	1.629	Shorter 84.15	Medium 73.54	Normal 103.31	More .422
	Cagayans	15	1.622	Medium 80.79	Medium 80.37	Normal 103.27	Average .417
	Pampangas	62	1.620	Medium 80.73	Medium 76.25	Less 102.35	More .423
Southerners	Zambals	17	1.607	Shorter 82.68	Medium 79.63	Normal 104.11	Average .414
	Moros	20	1.597	Shorter 82.24	Broader 82.58	Normal 103.67	Less .407
	Tagalogs	169	1.596	Shorter 83.09	Medium 79.69	Normal 103.57	Average .420
	Bicolis	63	1.592	Shorter 83.31	Broader 81.54	Normal 104.59	Average .417
	Ilocanos	193	(1.593)	Shorter 84.81	Medium 75.44	Normal 104.31	Average .417
	Visayans	259	1.587	Shorter 84.41	Broader 81.90	Normal 104.67	Average .413
Average		838	1.606	83.12	79.39	103.76	.417
Average northerners			1.624	Medium 81.74	Medium 77.07	Less 102.98	More .421
Average southerners			1.597	Shorter 83.80	Broader 80.53	Normal 104.15	Average .415

Dr Franz Boas, in commenting on this paper, stated that the anthropological problems of southeastern Asia revolved about three races, the Malayan, the Negrito, and a short but light people represented by the Veddahs of Ceylon.

Immediately after the discussion of the paper the Society held its annual meeting. The reports of the officers were read and the following officers were elected for the ensuing year: President, J. Walter Fewkes; Vice-president, James Mooney; Secretary, John R. Swanton; Treasurer, George C. Maynard; Additional members of the Board of Managers, I. M. Casanowicz, J. N. B. Hewitt, F. W. Hodge, C. H. Robinson, Mrs M. P. Seaman.

Meeting of April 27, 1909

A special meeting was held on this date in the interest of Indian music. The paper of the evening, on *The Study of Indian Music*, was by Miss FRANCES DENSMORE, who is engaged in this study among the Chippewa of Minnesota for the Bureau of American Ethnology. Miss Densmore treated her subject as in answer to the following questions: (1) Why is it done? (2) How is it done? (3) What has been accomplished during the past year?

(1) In answer to the first question, Miss Densmore stated that the purpose of the present work is to find by analysis what constitutes Indian song and musical performance, and to make the results of the study available and clear to those who are not musicians but who are interested in the general progress of science. The music of civilized man is an art; it conforms to known laws. The music of uncivilized man is a spontaneous expression; its form is determined by instinct, habit, and a sense of pleasure. Apparent freedom is here, yet nothing is free, for beneath all apparent freedom lies law, unseen but absolute. The natural laws which govern primitive musical expression can be determined only by the analysis of primitive songs and musical performances, and by a systematic classification of the data thus obtained. The purpose of the present work is the collection and classification of data with a view to determining the natural laws which govern musical expression. The task in its entirety belongs not to one lifetime but to the patient years which know neither haste nor weariness.

(2) The work is done by making phonographic records of Indian songs on the reservation, transcribing these records, analyzing both record and transcription, and tabulating the analyses according to a definite system.

Miss Densmore then gave a word-picture of the Red Lake reserva-

tion in northern Minnesota, and a description of the dances which she witnessed there the summer preceding. Several songs collected by means of the phonograph were sung with piano accompaniment of extremely simple chords. Numerous phonograph records were given, the purpose of which was to show the use of the phonograph as a musical notebook.

(3) The third question had been answered in part, Miss Densmore explained, by showing some of the material collected, but the more important part remained. It was by analysis, quite as much as by the collection of material, that this branch of research was to be made effective.

Miss Densmore explained her reasons for using ordinary musical notation, with a few additional signs, in transcribing Indian songs, dwelling on the fact that the Indians under her observation frequently use a wavering tone as an ornamentation in their singing. She also described interesting experiments by means of which she had discovered a kernel of tone in fairly accurate intonation upon phonograph records of existing discordant songs. Attention was called to the fact that the principal overtones are sung more correctly than other tones, also that accidentals are sung accurately when diatonic tunes in the same song are given with faulty intonation. This points to a mental origin for the tone, those tones which, consciously or unconsciously, are most strongly impressed upon the mind being sung most accurately. An interesting point was the statement that some songs were found to be melodic and others harmonic in structure, examples of each class of songs being given. Miss Densmore stated that she found the rhythm to be most peculiar in songs intended to exert a mental influence, as "medicine" songs, certain Midé songs, and also songs intended to incite to war. The difference between the metric unit and the rhythmic unit in a song was fully explained. No attempt was made to enter deeply into the psychological phase of Indian music, yet it was plainly shown that interesting investigations could be made in that direction. The lecture closed with a group of songs, sung with Indian drum and with piano, a native drawing of one of the songs being shown upon the blackboard.

The subject was discussed by a number of members and guests, many of whom are professionally interested in music.

JOHN R. SWANTON,
Secretary.

PROCEEDINGS OF THE ALABAMA ANTHROPOLOGICAL SOCIETY

Meeting of May 13, 1909

On May 13, 1909, Dr Thomas M. Owen, Dr H. B. Battle, Prof. H. S. Halbert, Buckner Beasley, Edgar C. Horton, and Peter A. Brannon met at the residence of Dr Owen in Montgomery, Alabama, for the purpose of discussing the formation of an Anthropological Society. Dr Owen presided, and Mr Brannon acted as secretary. After an able introductory address of half an hour by Dr Owen on the objects and aims of such an organization, and a brief talk by the other gentlemen present, it was decided to proceed at once to the formation of a Society. The following officers were then elected to serve until the annual meeting in December: Dr Thomas M. Owen, *President*; Dr Herbert B. Battle, *Vice-President*; Peter A. Brannon, *Secretary*; Buckner Beasley, *Treasurer*. J. T. Letcher, Will T. Sheehan, J. H. Paterson, and Sidney Shulein, having expressed a desire to become members if an organization was formed, but being unavoidably absent, they were enrolled as members. The officers were constituted a committee to draw up a constitution and agree on a plan of work, and report at a meeting to be held May 27. The meeting then adjourned.

Meeting of May 27, 1909

The second meeting of the Alabama Anthropological Society took place at the residence of the President, Dr Thomas M. Owen, on the evening of May 27. Seven members, including all the officers, were present: Dr Owen, Dr Battle, Mr Brannon, Mr Beasley, Professor Halbert, Mr Letcher, and Mr Horton. After a brief general discussion, the preliminary draft of the constitution, prepared by the committee appointed for that purpose, was considered section by section, and after a few minor changes it was adopted. This action was followed by a general discussion of plans and of ways and means for arousing interest and of making a success of the new organization. The Society then adjourned to meet June 22, at the residence of the Secretary.

The constitution is as follows:

CONSTITUTION OF THE ALABAMA ANTHROPOLOGICAL SOCIETY

ARTICLE I. *Name*.—1. The name of this organization shall be the "Alabama Anthropological Society."

ARTICLE II. *Objects.* — 2. Its objects shall be the promotion of anthropological study and research.

ARTICLE III. *Members.* — 3. Membership in the Society shall be (1) active; (2) associate; and (3) honorary.

4. Active members shall be limited to twelve in number, who shall be residents of the city of Montgomery, and in them shall be vested the sole control of the affairs of the Society.

5. Associate members shall include such persons as may be elected to this class, but they shall not participate in the government or control of the Society; and upon payment of prescribed dues they shall be entitled to all publications which may be issued.

6. Honorary members shall embrace persons distinguished in historical, literary or scientific attainments.

7. Members may be elected at any meeting of the Society, and the unanimous vote of the entire active membership shall be necessary to a choice.

ARTICLE IV. *Officers and Committees.* — 8. (1) The officers shall be a president, a vice-president, a secretary and a treasurer.

(2) They shall be elected at the annual meeting, and shall serve for one year, or until their successors are elected.

(3) Their duties shall be such as usually pertain to these positions, except as may be specially hereafter provided.

9. (1) There shall be an executive committee, to consist of the four above named officers; and also the following standing committees, each to be appointed annually by the president, viz: Field Exploration, Collections and Relics, Publicity, and Promotion of Anthropological Study in Alabama Schools and Colleges.

(2) Each committee shall consist of four members, of which an officer of the Society shall be one. In addition the president shall be ex-officio a member of all committees.

(3) The executive committee shall have general control and supervision of the work of the Society not specially provided for, it shall arrange and submit at each annual meeting a course of study for the next ensuing year, and shall prepare and issue its publications.

(4) All other committees shall perform such duties as are implied in their titles.

(5) All committees shall report annually in writing, or oftener as may be required.

ARTICLE V. *Meetings.* — 10. An annual meeting of the Society shall be held in the city of Montgomery, Alabama, in December of each year, at which time officers shall be elected, a course of study and work for the ensuing year adopted, and annual reports shall be made by the president, the secretary, the treasurer, and all committees.

11. There shall be held, in addition, one regular meeting each month, at

such time and place as may be previously agreed upon, and at such monthly meeting papers may be presented and discussions had on subjects or topics of interest to the Society, and at such time any necessary business may be transacted.

12. At the annual meeting, seven members shall constitute a quorum; and at monthly meetings five members shall constitute a quorum.

ARTICLE VI. *Dues.* — 13. The annual dues of active members shall be six dollars, payable monthly.

14. Associate members shall pay two dollars annually, prior to December 1st each year.

ARTICLE VII. *Amendments.* — 15. This constitution may be amended at any annual meeting by a three-fourths vote of the total active members, or at any monthly meeting by a unanimous vote of the entire active membership.

Meeting of June 22, 1909

The third meeting of the Society was held at the residence of the Secretary on the evening of June 22. Five members were present — Dr Owen, Dr Battle, Mr Brannon, Mr Beasley, and Mr Letcher.

Letters were read from Mr Clarence B. Moore and Mr Warren K. Moorehead advising that they had forwarded sets of their publications. These publications were then exhibited and examined. A vote of thanks was extended these gentlemen for their generous coöperation.

Several communications were read relative to the exchange and purchase of specimens.

Mr J. Y. Brame, Jr, was elected an active member. Five applications for associate membership were read, and the applicants elected.

The importance of a thorough, active, and consistent course of field work was discussed, and the necessity of an active canvass for objects with which to build up a collection was emphasized. It was suggested that a creditable display of objects, the cabinets of the Society to be placed in the Department of Archives and History in the State Capitol, would be one of the best assets for the encouragement of coöperation among the people generally.

The Secretary was instructed to open correspondence with the leading scientific bodies in America with reference to an exchange of publications. The Secretary was also instructed to prepare an application blank and to begin at once the soliciting of associate members.

The Society then adjourned to meet in regular session with Mr Paterson on July 22.

Meeting of August 5, 1909

The fourth meeting of the Society was held in the office of J. Haygood Paterson, 116 Dexter ave., August 5. Owing to the absence of

several members from the city, the meeting for July 22 was postponed until this date. Nine members, including all officers, were present: Dr Owen, Dr Battle, Mr Brannon, Mr Beasley, Mr Horton, Mr Letcher, Mr Shulein, Mr Paterson, and Mr Brame. Judge R. B. Haughton of St Louis, Mo., Professor Joel C. DuBose of Birmingham, Ala., and Mr Samuel B. Brewer of Anniston, Ala., were present as visitors.

A letter was read from Mr William C. Mills, Curator and Librarian of the Ohio State Archaeological and Historical Society, stating that he had sent a number of its publications and would be glad to exchange with the Alabama Society. The Secretary notified the Society of the receipt of an interesting communication from Dr Aleš Hrdlička, making inquiries and suggestions concerning the work undertaken. The receipt of some copies of his work on the "Collection and Preservation of Skeletal Remains" was noted, and these the Secretary was directed to place in the hands of the committee on field exploration.

PETER A. BRANNON presented, by title, a paper on *Aboriginal Remains in the Middle Chattahoochee Valley of Alabama and Georgia*, to appear in the *American Anthropologist* for April-June, 1909. The Society voted to order 400 reprints, to be issued as "Miscellaneous Papers, No. 1," of the Alabama Anthropological Society.

DR OWEN then presented a paper, the first regular number of the series for 1908, on *Opportunities for Anthropological Study and Research in Alabama*. Dr Owen outlined the work usually undertaken by societies devoted to anthropological study and research, making clear to the members the dignity and importance of the subject. He then indicated what had been done in the Alabama field by Brinton, Gatschet, Thomas, Pilling, Mooney, Swanton, Halbert, Hamilton, and others, and followed with a detailed consideration of what might be done by the members of the Alabama Anthropological Society in the special departments of Ethnology, Archeology (including mound exploration and the location and identification of town and village sites), Philology, Somatology, and Sociology, and the building up of a collection of materials for study, etc. The paper was received with much interest, and gave a solid and substantial direction to the work to be done by the Society. At its conclusion each member discussed the paper, and renewed his pledge of support.

The President announced the several committees, and outlined the work of each, namely: *Field Exploration*: Buckner Beasley, chairman; Dr H. B. Battle, Sidney Shulein. *Collections and Relics*: E. C. Horton, chairman; H. S. Halbert, P. A. Brannon. *Publicity*: Will T. Sheehan, chairman; J. Y. Brame, Jr, P. A. Brannon. *Promotion of Anthropolog-*

ical Study in Alabama Schools and Colleges: J. T. Letcher, chairman; Will T. Sheehan, J. H. Paterson, Dr H. B. Battle.

The Executive Committee, as provided by the Constitution, is to consist of the four officers. The President is ex-officio a member of each committee.

The President gave a brief account of a trip to the old Horseshoe Bend battle-ground on July 3, 1909, and recounted finding a few primitive objects.

Mr Beasley reported a week's exploration trip on the Tallapoosa and Alabama rivers, covering 75 or 80 miles, and also a brief visit to the Charlotte Thompson mound. From this mound he exhibited nearly an entire skull, in a fair state of preservation; it shows artificial flattening, and an exceedingly abnormal thickness; no forehead is perceptible, the rounding flattened part beginning immediately above the sinus; the ordinary undulations on the inner side of the skull are not to be seen, though the artery lines are still present. The skull is uncommonly small for that of an adult.

The Society adjourned to meet August 24, with Mr Beasley.

Meeting of August 24

The regular August meeting of the Society was held with Mr Buckner Beasley at the residence of Honorable William M. Teague, in Montgomery, on the evening of August 24, with the President, Dr Thomas M. Owen in the chair. The following members were present: Dr H. B. Battle, Professor H. S. Halbert, P. A. Brannon, Buckner Beasley, J. V. Brame, Jr, J. T. Letcher, Esq., and Dr Owen. Honorable W. M. Teague of Montgomery, and Major S. B. Brewer of Anniston, were guests.

After the routine business, Professor HALBERT presented the paper of the evening on *The Archeology of the Gulf Region East of the Mississippi River*. This paper contained a thoughtful discussion of the subject, and showed wide reading and extended research. Professor Halbert has himself made personal examination of the field reviewed in his paper, and his conclusions were fortified both by his personal experiences and by a careful analysis of the authorities. He sketched the evidence of prehistoric life and Indian occupancy of Alabama, reviewing the available data concerning mounds, trails, skeletal remains, and artifacts. He discussed the culture status of the aboriginal inhabitants of the Gulf region as shown by their archeological remains.

Among other conclusions reached by Professor Halbert were, first,

that if a close unity among the tribes of the Gulf coast existed, it was in very remote times; second, that the Southern Indians were sun-worshippers; third, that these Indians were, at the time of the coming of DeSoto, in 1540, in the lower stages of barbarism; fourth, that at this time, and for fifty years prior thereto, all the Indians of the southern half of the continent showed unmistakable signs of decadence; and, fifth, that there existed throughout the whole country certain unoccupied sections known as neutral grounds.

After the discussion of the paper notes and comments from the members were called for.

Mr Brannon reported a recent visit to Russell county, in which he stated that he had found a few archeological objects and had formulated plans that would bring in others.

Dr Owen exhibited a series of photographs of the illustrations found in that rarest of Southern books, Bernard Romans' *Florida*. He also exhibited an excellent photograph of Sequoyah, or George Guess, the inventor of the Cherokee alphabet.

Professor Halbert gave an interesting account of some of his boyhood archeological experiences.

Before and during the meeting much interest was manifested in the fine collection of prehistoric objects belonging to the host, Mr Beasley. These number several hundred and include chisels, mortars, pounding stones, discoidals, spear and arrow heads, beads, pipes, and ornaments.

The Society adjourned to meet at the residence of Mr J. T. Letcher, on September 23.

Meeting of September 23

The regular September meeting of the Alabama Anthropological Society was held at the residence of Mr J. T. Letcher, 53 South Goldthwaite st., on the evening of September 23, the President in the chair. Members were present as follows: Dr H. B. Battle, Professor H. S. Halbert, E. C. Horton, P. A. Brannon, Buckner Beasley, J. T. Letcher, and Dr Owen.

The Secretary announced the receipt of more than a dozen publications of a scientific nature for the library of the Society, and read letters from Professor W. H. Holmes, Chief of the Bureau of American Ethnology, and from the Secretary of the Smithsonian Institution relative to publications to be sent by their respective departments.

Mr Beasley, of the committee on field exploration, reported two trips taken by him since the last meeting.

Mr Horton, of the committee on collections and relics, through Mr

Brannon, reported the installation of twelve lots of objects in the Society's cabinets in the museum of the Department of Archives and History at the State Capitol. These are all from Macon, Montgomery, and Russell counties, and were presented by Messrs E. Dreyspring, Beasley, and Brannon.

Mr Letcher, of the committee on schools and colleges, reported that he was waiting for the opening of the several schools of the State before undertaking any direct work.

Mr Brannon, in the absence of the other members of the publicity committee, reported the work done by him since the last meeting, and asked the opinion of members as to plans for conducting a publicity campaign.

The paper of the evening was presented by Mr LETCHER, on *Indian Mounds of Macon County, Alabama*. Mr Letcher had made trips to every mound site in Macon county, and the paper was the result of the observations made during these visits. He places these mounds, with one exception, in the domiciliary class. They are all in the western part of the county, and are all in close proximity. No cemeteries are found associated with any of them. Two are square topped, the others circular and flattened, excepting one which is tall and conical.

The paper was discussed at considerable length; at the same time former mound exploration by several of the members was described.

Before adjourning, the Society resolved that any member absenting himself from two successive meetings, without a satisfactory excuse, should be declared dropped.

The meeting was adjourned until October 26, when Mr Brannon will discuss "The Dress of the Early Indians of Alabama."

BOOK REVIEWS

Collections of the State Historical Society of North Dakota. Volume II.
Bismarck: 1908. 8°, 508, 195 pp.

In this second volume of the *Collections of the North Dakota Historical Society* are several papers of interest to anthropologists. These include one on the names of the Ojibwa in the Pembina Band, a number of biographical sketches of Mandan and Ojibwa men of importance, and a Mandan myth. The most striking papers, however, are those by Professor O. G. Libby, "Typical Villages of the Mandan, Arikara and Hidatsa in the Missouri Valley," and "La Verendrye's Visit to the Mandans in 1738-9." In each of these the author takes a position which is open to serious criticism, and which deserves to be discussed at some length.

In the first paper, Professor Libby discusses the ground-plans and surface features of four villages, the Mandan site at Ft Clark, a Hidatsa site on Knife river, an Arikara site on the Ft Berthold reservation, and the Burgois site north of Bismarck at which excavations were carried on four years ago by the Peabody Museum of Harvard University.¹ From his observations, the author concludes that there are clear differences in character between the Hidatsa and Mandan sites, and that the Burgois site was Hidatsa and not Mandan. In the first there is no central square, the earth-lodges (which in the interest of accuracy should not be spoken of as "tepees") show no regularity of facing upon an open area, the house-rings are uniformly deeply excavated, and there are large accumulations of debris in and about the village, often in the form of mounds outside its limits. In the Mandan sites, on the other hand, there is a clearly marked central "square" on which the surrounding earth-lodges opened, the house-rings are shallow, and there is no accumulation of debris.

These criteria, however, are open to some objection. The presence of a central "square" is a feature of the Mandan villages which obviously is to be expected from the well-known accounts of these villages as they existed in the early part of the nineteenth century, and the plan of the

¹ Will and Spinden, *The Mandans: A Study of their Culture, Archaeology and Language. Papers of the Peabody Museum of American Archaeology and Ethnology*, vol. 117, no. 4.

Ft Clark site shows such an open area very clearly. That the Hidatsa had no such open area is, however, not borne out by the plan given on plate IV at least. A nearly circular open space may be seen here in the northern part of the village, and upon it a considerable number of the surrounding lodges face more or less directly. But to make such a criterion of real value, we must have not a plan of a single site from each tribe, but plans of many sites, for it is entirely possible that there were wide variations in the details of the plans of different villages; and that the two plans selected may really be extremes, between which intermediate forms exist. The Burgois site certainly does not show as distinct a "square" as that at Ft Clark, but, as pointed out in the above report (pp. 151-152), there are two areas which partially fulfill the requirements. It should be noted also that La Verendrye distinctly speaks of "squares" in the village he visited, indicating that, whatever tribe it belonged to, there were open areas, and more than one.

The relative amount of *débris* upon the two types of sites seems a very unreliable test. This is likely to vary largely according to the length of occupancy, and furthermore, on several admittedly Mandan sites (among which is that at Ft Lincoln) the amount of *débris* is large, although perhaps not so large as at the Burgois site. The depth of the house-rings would be an excellent criterion, if it were really constant. My own recollection, however, of the rings at the Burgois site, is that they were distinctly shallow as a rule, and only exceptionally as deep as Professor Libby states.

On the evidence submitted therefore, it hardly seems that the author has proved his case. There are two points moreover, which directly contradict his theory. He states (p. 500) that the Hidatsa villages contained swarms of dogs, whereas in the Mandan villages they were very rare. If this be accepted, then the total absence of dog bones at the Burgois site (see Report, p. 182) is strong evidence against its Hidatsa origin. Secondly, the character of the pottery found is an equally strong argument on the same side. The pottery from the Burgois site is similar in almost every respect to that found at acknowledged Mandan sites. It is a rather thin, fine-grained ware, with very characteristic decoration. No certified specimens of Hidatsa pottery have come under my notice, but it is said to be a coarse, rather rude ware, and thus quite unlike that found at the site in question.

In his second paper, Professor Libby attacks the long accepted belief that the Mantannes, visited by La Verendrye in 1738, were, as their name would imply, the Mandans. He declares that these people were on the contrary the Hidatsa, and that the villages visited by La Verendrye

at this time, and by his son during a subsequent expedition, were not in the vicinity of Heart river, but more than a hundred miles farther up the Missouri, between the Little Missouri and Shell creek. That these conclusions can be said to be established, seems very doubtful.

The author, in his opening paragraph, states that the Mandans declare the name "Mandan" is not their own name for themselves; that La Verendrye learned the name (Mantanne) from the Cree or Ojibwa; and that while the latter never came in contact with the Mandan directly, they did with the "Hidatsa, Minnetaree or Grosventre Indians who lived on the Mouse and Upper Missouri rivers." In this connection it should be remembered that it is very unusual for a tribe to be known to its neighbors by the name by which it calls itself, and that commonly a tribe has as many different names as there are tribes with which it comes in contact. It is very probable that the name "Mantanne" is derived from the term by which the Mandan were known to the Dakota, "Mawatadan," "Mawatana" perhaps meaning "little canoe." This would be a term reasonably enough applied by the users of the birch canoe to a people using the small, and rather clumsy bull-boat. As the Cree and Ojibwa had long been in contact with the Dakota, they naturally would take over the name from them. In placing the Grosventres (Hidatsa), moreover, on the Upper Missouri and Mouse rivers, the author ascribes to them a location which, so far as any other evidence goes, is unwarranted, and really begs the whole question.

In tracing La Verendrye's journey from Portage la Prairie to the Mantanne villages, the author appears to have read his text somewhat carelessly. He identifies the first and second mountains reached by La Verendrye very reasonably with the Pembina and Turtle mountains, from the point of which latter, La Verendrye states, his route to the villages lay to the southwest. But in speaking of the relative positions of the Assiniboin village (to reach which a considerable detour was necessary) and that of the Mantannes, he makes a serious error. He says (p. 503) that the Assiniboin village "was seventeen leagues from the Mantannes," or the "Mantanne village" (p. 504), and uses this supposed distance of fifty miles as an argument in locating the Mantannes far to the north of Heart river. A moment's reference to the text shows however that La Verendrye says nothing of the kind. What he does say clearly is that the Assiniboin were seventeen leagues *from the place at which the Mantanne party was waiting, that had come out from their villages to meet La Verendrye* — which is a very different thing. Arriving at this spot November 28, La Verendrye spent a day or so there, and leaving again

on the 30th, reached a point seven leagues from the Mantanne village after three whole days of travel. If we assume, as the author states on page 505, that the average day's march was from twenty-five to forty miles, this would make a distance of seventy-five to one hundred and twenty miles, which, added to fifty (the distance of the meeting place from the Assiniboin) and the twenty still remaining before the Mantanne village could be reached, places this latter not fifty but a hundred and forty-five to a hundred and ninety miles distant from the Assiniboin. Even if, as the author believes, the latter were located near the Canadian line, this distance is far too great to fit with his theory. It is however approximately the distance of Heart river from the above-mentioned boundary. It should also be noted that further evidence of the distance between the Assiniboin and the Mantanne village is to be found in the fact that on his return journey, La Verendrye occupied eleven days in the transit. As he was ill, he of course traveled slowly, but hardly so slowly as to make only fifty miles in eleven days.

The location of the Assiniboin village is a difficult matter unquestionably, and the text is very vague. After stating that the Mantanne villages lay to the southwest from the point of Turtle mountain, La Verendrye continues " . . . de la pointe de la seconde montagne, a alér chez les mantannes en droiture il faut tenir le sud ouëst quard ouëst, il sen faloit de beaucoup que nous ne fime de chemin droit pour deux lieues en droiture, nous en fesions de trois et quatre de nostres fort, il peut y avoir cent vingt lieues, a ouëst sud ouëst, que nostre guide nous a bien augmenté de plus de cinquante a soixante lieues. . . . " The first sentence would seem to mean that, in coming from their fort, they had gone half as far again, or even twice as far, as would have been necessary if they had kept a straight course. It is especially to be noted moreover, that he refers to the fort from which they set out, not to Turtle mountain. The lines which follow are certainly obscure, but bearing in mind the frequent omission of punctuation in the rest of the text, the following would seem to be a reasonable interpretation. The distance in a straight line from the fort to the Mantannes, he estimated at one hundred and twenty leagues, and the guide, by insisting on the visit to the Assiniboin, had made them go fifty or sixty leagues out of their way. Now, although the estimated distance of one hundred and twenty leagues is actually twenty or twenty-five leagues too great, it is not bad for a rough estimate; and the detour totaling fifty or sixty leagues would be just about that required by going from the fort to a point not far to the west of Turtle mountain,

¹ Brynner, *Report on the Canadian Archives*, 1889, p. 10.

before turning south to the Heart river sites. It is hard to see, accordingly, that the author has brought forward any valid evidence on this ground for the location of the Mantanne village so far to the north.

A point, however, of real value in Professor Libby's favor, seems to be afforded by the latitude of $48^{\circ} 12'$ observed by La Verendrye's son at the Mantanne village. Here we have a clear and definite statement of location, which would, as is pointed out, place the village about one hundred miles north of Heart river, and about sixty miles north of the later Knife river sites. Errors of observation are to be expected in determinations made at this period, but as they rarely seem to exceed $10'$ or $20'$, we are not perhaps justified in explaining the matter in that way, although errors of a degree or more are not unexampled. To accept this, however, as the location of either a Hidatsa or Mandan village in 1738 is to go counter to all other accessible evidence and tradition.

The Hidatsa and Crows were originally, so far as present evidence goes, one tribe. According to one series of traditions, somewhere about the middle of the seventeenth century, at the time when the tribe was living with the Mandan at Heart river, a separation took place, and the Crows moved west to the Rockies. Subsequently the Hidatsa moved up to Knife river, and, after a stay here of unknown length, went a little farther on. The previous three villages were united into one, and two sites were occupied successively a short distance above Knife river. A few small temporary settlements were made even beyond this point, the westernmost being just beyond the present town of Ellsworth. Leaving these sites, they returned to their abandoned position at Knife river, and had been living there for many years when Charbonneau came in 1796. Lewis and Clark, however, place the Hidatsa at Heart river as late as 1764, and state that they left there for Knife river some time between then and 1796. Their statement omits entirely any mention of the early visit and settlement at Knife river. So far then as the most reliable traditions go, there is no evidence that the Hidatsa at any time were within fifty miles of the latitude assigned by La Verendrye as that of the villages he visited. Moreover, at their briefly occupied positions above Knife river, they expressly state that the three villages were combined into one large one. So that as La Verendrye says that the "Mantannes" had six villages, to quote from Professor Libby "neither by latitude nor by number of villages" do the ascertained facts and traditions agree with his theory. If, relying on the latitude of $48^{\circ} 12'$, the village of the Mantannes was, as the author states, "too far north to be within the area reached in early times by the Mandans" (p. 505), it was equally beyond any known posi-

tion for the Hidatsa. The whole question is, obviously, a puzzling one, but it is difficult to accept the author's explanation.

Having declared La Verendrye's Mantannes to be the Hidatsa, the author is unfortunately confronted by a difficulty, for he must account for the true Mandan in some way. He does this by boldly identifying the Mandan with the Panaux or Panana of La Verendrye's account. So far as any proof given is concerned, this is a pure assumption; and, so far as I am aware, there is hardly a shred of evidence in its favor. On the other hand, the identification of the Panaux or Panana with the Arikara has not only probability on its side, but is in most respects well substantiated.

Space is lacking, however, for further discussion of the author's theory, which certainly at present seems far from being established. But, whether we agree with the views set forth or not, we must be glad that interest in the problems connected with the early aboriginal occupancy of the Missouri valley is being aroused. The North Dakota Historical Society has made an excellent beginning in the mapping and superficial study of many of the sites within the state, and in the scrutiny of the accounts of the earliest explorers. It is to be hoped that this good work will continue in ever increasing volume; that in addition to the examination of the surface features, thorough scientific excavation of numerous sites will be undertaken; and that the example of North Dakota in thus taking up the investigation of its aboriginal peoples and their remains will be followed by the other states throughout the Missouri valley.

R. B. DIXON

Le fémur et le tibia chez l'homme et chez les anthropoïdes (Variations suivant le sexe, l'âge et la race). Par SILVESTRE BELLO Y RODRIGUEZ. . . Avec plusieurs figures dans le texte et 3 planches hors texte. Paris: G. Jacques, 1909. 120 pp.

This thesis for the doctorate was undertaken at the suggestion of Professor R. Verneau of the Paris Museum of Natural History, and in the course of his investigations the author measured 130 anthropoid and 2661 human femurs, and 122 anthropoid and 2096 human tibias. Of the human long-bones studied 1323 femurs and 1018 tibias (Dr Bello y Rodriguez includes a few Lapps and Ainos here), belong to the white race; 312 femurs and 270 tibias (Malayo-Polynesians are counted) to the yellow race; 263 femurs and 236 tibias (Veddás, Melanesians, Australians, Negritos, Bushmen, are also included here) to the black race; 611 femurs and 518 tibias (about two-thirds South American) to the American race, besides 52 femurs and 54 tibias of young persons of various races. Of the

anthropoid femurs there were 48 gorilla, 39 chimpanzee, 12 orang, and 30 gibbon; of the tibias, 44 gorilla, 41 chimpanzee, 9 orang, and 28 gibbon. This material is more extensive and more varied than that treated in such previous monographs as those of Bertaux (1891), Burnieller (1899), Rollet (1889), Walkhoff (1904), etc. As the author notes, his bibliography (pp. 114-117), including some 50 titles, is not intended to be exhaustive. One misses from it, however, the two studies of G. A. Dorsey treating of the subject in question, "The Long Bones of Kwakiutl and Salish Indians" (*American Anthropologist*, 1897, x, 174-182) and "A Sexual Study of the Size of the Articular Surfaces of the Long Bones in Aboriginal American Skeletons" (*Bost. Med. and Surg. Jour.*, 1897).

Of all the anthropoids studied, the gibbon resembles most man in the morphology of the bones of the leg; "his femur is almost a human one whose proportions are reduced about one-half," and "his tibia differs from that of man (and is yet nearest to man) by the inward (negative) instead of outward (positive) torsion of its lower extremity." Next to the gibbon comes the chimpanzee, which, however, in the morphology of the lower limbs, is far removed from man. The gorilla and the orang are about an equal distance farther still. In a young gibbon a "positive" torsion of the tibia, approaching that observed in certain negroes, was observed; in all other cases the torsion is "negative." In a young Japanese an outward torsion was noted. In none of the anthropoids occurred a third trochanter or a hypotrochanterian fossa. In the female anthropoid the index of robusticity is less, the platymery greater, the torsion of both femur and tibia less marked than in the male. The young anthropoids differ less from man than the adult. In man the torsion of the femur cannot be said to have any special value as a sex character, and the same may be said of the torsion of the tibia. Platycnemy and platymery, while generally more pronounced in man than in woman, are likewise subject to such variations and divergences as make it impossible to use them dogmatically as distinguishers of sex. The tibio-femoral index is practically of the same uncertain character. Young individuals, as compared with adults, have a less robust femur with a smaller head, higher pilastric and platymERIC indexes; less platycnemic tibia (except in the case of the Japanese), lower tibio-femoral index, and more frequent occurrence of hypotrochanterian fossa. The conclusions of an ethnic sort are of considerable interest. The author distinguishes four well-marked types (White, Japanese, Negro, American), and one sub-type (Malayo-Polynesian). The "White type" is midway between the "Negro type" and the "Japanese type," which form the two extremes. The "Ameri-

can type¹ resembles closely the White type, but the femur has a little longer neck and a slightly larger head; it differs from the white type in its marked platymery, its appreciable platycnemy, and its high tibio-femoral index." The "Malayo-Polynesian sub-type" is intermediate between the "American type" and the "Negro type." The chief characteristics of the "Negro type" are: an extreme slenderness in the body of the femur; a small, round head; a short neck forming with the diaphysis a wide open angle; a high pilastric index; absence of platymery; strong torsion; no marked flattening of the diaphysis of the tibia in transverse direction; strong torsion of tibia; very high tibio-femoral index. The "Japanese type" is characterized as very robust and thick-set femur, with very large head, elongated vertically, and very long neck, making with the axis of the diaphysis a less open angle; diaphysis almost rounded in the central part, but sensibly flattened from front to back in the subtrochanterian region; little torsion of femur; little torsion of tibia and absence of platycnemia; extremely low tibio-femoral index. Within the white races there are numerous variations. With regard to platymery and platycnemy Dr Bello y Rodriguez states: "They have diminished during the neolithic period (as compared with the man of Cro-Magnon and the man of Spy), become still less with the old historic races of France, and have disappeared generally in the Frenchmen of to-day." The tibio-femoral index, too, was much higher in the men of the Quaternary epoch than in their successors and in the populations of the present day. This applies, however, only to the "White type" as identified with "modern people of France and the races belonging with them." With the whites of northern Africa the case is different; the Berbers and the Guanches, e. g., reproduce in several respects peculiarities of the fossil and prehistoric races of Europe. The ancient Egyptians show a mixture of the White and the Negro types. The few Hindu femurs and tibias (34 in all) studied seem to give indications of Negrito admixture. The Japanese give the lowest tibio-femoral index of all, i. e., the length of the tibia in proportion to that of the femur is least, but this does not hold of the yellow race as a whole, so far as the figures in hand go, — the Chinese index, e. g., is quite high. In the Malayo-Polynesian group are included Indonesians, Malays, Polynesians, all having a high tibio-femoral index. The long-bones of the Philippine Negritos suggest *métissage*, as do also those of the Malagasy and the Melanesians.

This monograph, which contains detailed data of measurements, cannot fail to be of interest to the somatologist and to all concerned in any way with the study of human physical characters.

Die vor- und frühgeschichtlichen Altertümer Thüringens. Herausgegeben von Prof. Dr A. GÖTZE, Prof. Dr P. HÖFER, San.-Rat Dr P. ZSCHIESCHE. Mit 24 Lichtdrucktafeln und einer archäologischen Karte. Würzburg: Curt Kabitzsch (A. Stabers Verlag), 1909.

As the title suggests, the authors have attempted a piece of intensive archeological work, the kind that will eventually become the warp and weft of the science of prehistoric archeology. Limiting the field of study insures a better focus and more complete revelation of all the facts. The geographical area chosen in this instance is that bounded by the Harz mountains on the north, the Saale and the Werra on the east and west respectively, and southerly by the Thüringerwald. A distinctive and valuable feature of the work is a large archeological map (scale 1 : 100,000) the preparation of which took fourteen years. Each period, from the stone age to the Slavic period, is represented on the map by a distinctive color. By adopting a series of symbols printed in these colors the authors were enabled to plot not only the localities but also to indicate the age and general character of each find. The system is for the greater part that recommended by the International Congress at Stockholm in 1874.

The oldest traces of man's presence in Thüringen are found in the lower travertine deposits of the Ilm valley between Taubach and Weimar, and date from the Riss-Würm interglacial epoch. They consist of small flint chips and flakes with retouched margins. Although of paleolithic age they resemble eoliths (archeoliths of Verworm) more than they do the typical Mousterian industry of which they form a part. No objects were found that could have served primarily as ornaments, also neither pottery nor anything that would point to a knowledge of agriculture, domestication of animals, or fishing. Human remains belonging to this epoch are rare indeed — two teeth from Taubach and a piece of a skull from Ehringsdorf. The physical characters of the race, however, are well known from finds in other parts of Europe.

The upper layers of the Taubach-Weimar travertine also contain artifacts, one of which, found at Ehringsdorf, may be classed as Aurignacian. The late paleolithic is represented by the upper deposits in the Einhornhöhle and by the find at Krölpa.

As regards the early neolithic, nothing has been found in Thüringen that corresponds to the French Campignian or to its equivalent, the early Danish shell-heaps. Like Athena who sprang full-grown from the head of Zeus, neolithic culture in Thüringen appears suddenly in its advanced stages of development, a phenomenon not yet explained. Judging from the number of settlements and the variety of artifacts, the culture of the

region reached a high degree of development. Schistous materials that easily admit of polishing and perforation although relatively hard and tough, were used almost exclusively in the manufacture of stone implements. Flint was employed sparingly, being confined chiefly to arrow-points, knives, and small scrapers.

To the food supply contributed not only forest and stream, but also agriculture and domesticated animals, and yet evidence has been gathered that points to the practice of cannibalism. Skins as well as woven fabrics were used for clothing. That the people were ornament-loving is proved by the prevalence of articles of adornment. The principal weapons were the stone hatchet and hammer or club, and the bow and arrow.

The principal mode of burial was the interment of the body on its side with arms and legs sharply flexed (*liegender Hocker*). Indian neolithic burials of the same type have been found in southern Connecticut at Shelton. In some cases the body occupies a sitting posture (*sitzender Hocker*), and in others the skeleton is extended its full length. Only slight traces of cremation exist.

The length of the neolithic period in Thüringen cannot yet be measured. The authors are sure, however, that it was a long one. The culture is composed of a number of elements, some of which are indigenous. Of those that were intrusive, some were modified by their new environment, others were not. These three factors are best expressed in the terms of plastic art — the first by the so-called Schnurkeramik and the Rössener type; the second by the Bernburg type, the round-bodied amphoræ, the cups with zonal decoration, and Bandkeramik; and the third by the northwest German megalithic pottery.

Schnurkeramik. — As in other lands ceramics played the principal role in the art development of neolithic Thüringen. The leading forms are amphoræ with flat bottom, cylindrical or short neck, and handles attached to the zone of greatest horizontal diameter. The ornament, so-called Schnuornament, covers neck and upper half of the body. Another type is the cup with slightly differentiated neck, the latter alone being decorated. The variety of the grave forms (both Hügel- and Flachgräber, each with or without stone cists) and the richness of their contents point to a long duration of the period that is characterized by the *Schnurkeramik*. The Rössener pottery belongs to a mixed type and is found exclusively in flat graves that are not provided with stone cists.

The Bernburg type is composed chiefly of large cups with broad, low-set handles and decorated with spine-shaped prominences. It is associated with both flat and mound graves in part provided with stone cists;

also with communal graves. This type reached its greatest development in northern Thuringen. The round-bodied amphoræ are the representatives of a culture that originated in northern Germany where it usually accompanies the Bernburg variety. The *Bandkeramik* type is represented by round-bottomed bowls, the ornamentation being executed in such a manner as to resemble bands. They occur in flat graves without stone cists. Cups with zonal ornamentation are found over the greater part of central Europe.

Thus far pottery characteristic of the megaliths of northwestern Germany has been found at only two places in Thuringen. All these various classes of pottery are distinct not only in themselves but in their associations.

The substitution of metal for stone was made so gradually that life conditions suffered little change thereby. Copper and bronze appeared long before the close of the neolithic, and stone artifacts continued in use until late in the bronze age. Thuringen furnishes no evidence that would support the theory of a transition epoch of copper between the stone age and the bronze age. There is as yet no proof that the ore was mined in either the Harz mountains or the Thüringerwald. Bronze, therefore, was imported either as metal ready for casting or in the form of the manufactured articles themselves. Thuringen, on the other hand, was rich in salt, and through this commodity maintained her balance of trade.

Something of the character of the dwellings can be learned from certain burial mounds that have preserved remains of wooden structures presumably resembling the houses of the well-to-do. In some cases the ground-plan was rectangular; in others round. A single house urn found at Polleben is no doubt a model of the prevalent type of dwelling. The first epoch of bronze is characterized by interment of the dead; the second epoch and the first epoch of the iron age, by cremation.

The distinguishing features of the various phases of the bronze age and Hallstatt cultures are carefully portrayed and compared with those of neighboring areas. The beginning of the bronze age is placed at 2000 B. C. and the close of the Hallstatt epoch at 500 B. C.

The beginning of La Tène period witnessed the general use of iron both as weapons and tools; the appearance of the glass industry, of coinage, and of wheel-made pottery, and the development of a new style of art. A study of the fibulæ renders it possible to divide the period into three distinct epochs.

The Roman period and the period of migrations (*Völkerwanderungs-*

zeit) covered the first five centuries of our era and are treated by the authors as a unit. The first two hundred years of the Roman period witnessed but little change in the local La Tène culture. By the third century there was at least indirect communication with the highly developed culture of southern Russia.

The art of the following Merovingian period (500-800 A. D.) was marked by a certain richness and splendor hitherto unknown. The making over of the Thüringian monarchy into a Frankish province in 531 A. D. was followed by important cultural changes such as the introduction of Merovingian ornaments and weapons as well as of the Frankish mode of burial. The Slavic invasion began in the sixth century and its influence was felt till about 1000 A. D.

The greater part of the volume is devoted to an inventory of the finds which may be considered as the text to the valuable archeological map. While the arrangement is geographical, the period to which each find belongs is also indicated. The forty pages of bibliography, index of places, and the 379 high-grade illustrations complete a work of prime importance in the development of the archeology of the Fatherland.

GEORGE GRANT MACCURDY.

Mental and Moral Heredity in Royalty. A Statistical Study of History and Sociology. By FREDERICK ADAMS WOODS, M.D. New York: Henry Holt & Co., 1906. 12°, viii, 312 pp., ill.

In this work Dr Woods has attempted to apply modern scientific methods to the study of history. One needs to study the whole book carefully to appreciate the importance of the results which have come from this study. The book is a remarkable one and deserves the attention of both biologists and sociologists.

The original records from which history is written are largely *ex parte* statements whose views were colored by personal interest, often by imperfect knowledge, and frequently by strong prejudices. To get at the truth may perhaps be impossible in many cases, but the application of scientific methods of weighing evidence can be made to reveal the most probable interpretation of the data. While Dr Woods has not attempted in this volume extensive interpretation of historical data on the basis of the studies made, he seems to have demonstrated that the heredity of those who have had most influence in shaping the course of human events is a factor which the historian can not overlook without great loss. He has studied the relative influence of heredity and environment on the mental and moral traits of royalty. This class was selected for two reasons: first, because of the

preponderating influence royal personages have had on the course of events; second, because the preservation of pedigree records and information as to the mental and moral traits of royal personages are more nearly complete than is the case with any other class of people who have had an important influence on history.

The mental and moral status of each individual was determined by an exhaustive research in all available records, but principally in biographical dictionaries. From the best information obtainable each person is graded on a scale of 10 for both mental and moral traits. Scientific methods are applied to test the reliability of the grades assigned. The law of probability requires that the distribution of a given number of individuals amongst the grades should correspond more or less closely to the well-known frequency curve, the larger number of individuals occurring in the intermediate grades, the numbers shading off at the extremes. The number of individuals in each of the grades, as shown on pages 19 and 32, correspond remarkably well to the requirements of the law of probability. This fact adds great weight to the probability of the correctness of the grades assigned.

Another reason why the study was confined to royalty lies in the fact that we may assume for this class the most favorable environment. If environment is highly important in determining mental and moral traits, royalty should be superior in these respects. Dr Woods assumes that the mental, moral, and physical characteristics of the individual are the resultant of three causes, namely, heredity, environment, and free will. The present study is an effort to study the relative importance of these three factors in the production of character. The author might perhaps have made his meaning a little more clear in his reference to the latter cause, but as the study relates mainly to the one factor, heredity, the shortcoming is not a serious one. Subsidiary questions investigated are the effect of inbreeding, the relation of genius to insanity and sterility, and the relation between the rise of a country and the character of the blood of its kings.

The following quotation sums up in a general way the conclusion to which the study has led: "The most interesting and even startling thing has been the ease with which heredity alone has been able to bear the brunt of explaining the general make-up of character." The general impression the book gives is that this conclusion is justified, as will be seen in what follows.

Referring again to the grades given the various individuals, the number of individuals thus studied was 832. Frequency polygons were constructed

for the grades for the two sexes separately so as to eliminate differences correlated with sex. This is fortunate, for the studies indicate a distinct correlation especially between sex and the grades for moral character. The author is careful to state that there are necessary defects in the grades, both for intellect and morals; but when one realizes the amount of careful work Dr Woods did in establishing these grades, it would seem doubtful if any one could have done the work more conscientiously. The whole tenor of the book impresses one with its fairness and the lack of preconceived notions on the part of the author. As might be expected, there is some evidence of alternative inheritance, as the author points out. For instance, the children of Frederick, Prince of Wales, whose grade for both intellect and morals is 3 on a scale of 10, and Augusta Saxe-Gotha, whose grade for intellect is 6 and for morals 4, were part dissipated like the father while others showed virtues characteristic of the mother's good family.

In speaking of physical characteristics the author says: "The features usually resemble only one of the two parents when the parents are dissimilar; or at least some one feature, nose, chin, eyes, may be easily referred to one of two parents rather than a blending of each." The whole book is well illustrated with portraits of the more important individuals studied.

The House of Brunswick is cited as a case of degeneracy in later generations hardly accounted for by heredity — that is, there are more degenerates than one should expect from hereditary influences alone, and this family is the only marked exception in this respect of all the families studied. The inheritance of genius is distinctly illustrated in the House of Hohenzollern.

The immediate beneficial effect of out-crossing is illustrated by the union of Henry II, Prince of Condé, with Charlotte of Montmorency. The latter stock contained much genius. Of three children two were in grade 10 for intellectuality. This is somewhat remarkable when it is remembered that only 14 out of 671 individuals graded for intellect were in this grade. In the next generation the introduction of blood tainted with degeneracy and insanity brought disastrous results. The family immediately declined, never to recover from the effects of this taint.

Henry IV of France and his children illustrate the results frequently found from the union of good and bad stock. His mother and maternal grandmother rank 9 and 10 for intellect respectively. His father was not brilliant. He himself ranked 9. He married poor stock. One child ranked 8, while two were weak and degenerate. That genius may pass

over a generation is illustrated by Anne Marie, rated 10 for intellect, a daughter of one of the above degenerates. Further evidence that moral traits are hereditary is found in the fact that Peter the Cruel of Spain, an unspeakable monster, had, within five degrees of kinship, 8 out of 11 vicious or cruel; in six degrees of kinship, 11 out of 14 were thus classified. Peter therefore seems to have come honestly by his despicable character.

These facts all point to the importance of inheritance as a factor in character. Perhaps society must bear in some measure the responsibility for the propagation of vicious and criminal classes; the suffering inflicted on society by these classes is only a necessary retribution for the sins of omission.

It is seldom that the evidence is sufficient to demonstrate clearly a case of alternative inheritance in the studies made by Dr Woods, because in the case of any particular character which could be definitely identified from generation to generation the number of individuals concerned is always small. Yet there is evidence not only that physical characteristics, which can be identified, are alternative in their inheritance, but so far as there is evidence at all it indicates that mental and moral characters are similarly transmitted. In speaking of the Hapsburg lip the author says: "In almost every generation there were some who showed the peculiar lip and there were others who did not inherit it in any degree at all, and this is paralleled by the mental abnormality." This is just what we should expect if the inheritance of this character is alternative.

That there is correlation between mental and moral qualities is distinctly indicated, the coefficient of correlation being .34. This correlation is more striking in men than in women. One very interesting point brought out is a correlation between moral qualities and the number of adult offspring. The author suggests that this correlation furnishes a basis for the improvement of the race by natural selection, even under conditions so far removed from the struggle for existence as amongst royalty. This conclusion, which seems to be justified from the data given, deserves more than passing notice. Biologists, in considering the development of moral qualities by natural selection, have found difficulty in perceiving how altruistic tendencies could be favored by natural selection. If there is a correlation between moral qualities and the number of offspring which reach maturity, natural selection, in its action on fecundity, or rather the results of its mature progeny, would indirectly produce improvement in moral qualities.

The author thinks that amongst a given class, such as our foreign im-

migrants, this same correlation would hold. There would thus be a tendency toward moral improvement of the race. Biologists have hesitated to attribute development of moral qualities to natural selection. This slight but evident correlation suffices for the purpose if it holds within classes the individuals of which are comparable. The correlation between mental and moral qualities then means advancement of the races, both mentally and morally, due to forces hitherto little attended to. "The probability is that there are at work forces of natural selection of which we know little of the value as yet, but which are such that, setting aside all influences of environment, whether we will or not, the natural quality of humanity must progress."

The argument for the importance of heredity in explaining character is well substantiated by the facts given on pages 265 to 272, especially by the table on page 267, in which is represented graphically the number of eminent relatives — that is, whose grades for intellect are 9 or 10 — of of each grade from 1 to 10. The average number of eminent relatives of the individuals in classes 1 to 6 is approximately the same, whether we consider only the first degree of relationship or the first two degrees of relationship. But between grades 6 and 10, inclusive, the average number of eminent relatives of each person in these grades rises rapidly and quite regularly, the average number of such relatives in the case of individuals in grade 10 being more than four times as great as it is for individuals in grade 6, when the first two degrees of kinship are considered, and nearly three times when only the first degree of kinship is considered. The first degree of kinship is thus one and a half times as potent as the second.

Referring again to the evidence of alternative inheritance, on page 274 occurs the following statement: "The entire evidence in this research as we study families minutely and separately seems to be that both mental and moral qualities more often than otherwise do not thoroughly blend, but give us many examples of at least partial alternative inheritance."

The author states that he has not been able to detect the phenomenon of dominance. This statement is somewhat surprising, for there seems to be fully as much evidence of this phenomenon as there is of the segregation of characters in the Mendelian fashion. When we consider the difficulties of recognizing a moral or intellectual quality which might be transmitted as a Mendelian unit character, we are not surprised when the author says: "Although the mind seems in its inheritance to roughly obey the principle of alternative inheritance, and thus indicate segregation in the germ cells, I do not feel that this is sufficiently clearly defined to enable

one to classify according to hard and fast types, as is possible in dealing with the features of certain plants and animals, like the colors of mice, whether albino or gray; or the shape of peas, whether round or angular. For these reasons I have not attempted to apply Mendel's principles."

Thus far the proof of the important part inheritance plays in the intellectual and moral qualities of individuals, while having been rendered highly probable, does not seem to be conclusively proven. It is gratifying, therefore, to find that Dr Woods has applied in his last chapter the more positive methods of investigating such questions. For instance, it is known that, for physical characters which can be definitely described, according to Galton's law the coefficient of correlation between the parent and offspring is $r = .300$; the correlation for similar characters between grandparents and their grandchildren is $.150$, and for great grandparents and their great grandchildren it is $.075$.

Not only is the assumption that intellect is transmitted as fully as are physical characters rendered highly probable, but the correctness of the grades assigned by Dr Woods are strikingly confirmed by the fact that when the grades for intellect are compared the correlation between the grades of parents and their offspring is $r = .3007$, which, within the limits of the probable error, agrees exactly with the corresponding correlation for physical characters.

For grandparents and their grandchildren the coefficient of correlation for intellectuality is $.1606$, and for great grandparents and their great grandchildren it is $.1528$. The two latter coefficients are larger than is the case for physical characters, as called for by Galton's law. It might be assumed that this unexpectedly high degree of correlation is due to the effect of environment; but this is not the case, as will be seen below.

The corresponding correlation coefficients for moral qualities are $.2983$ for parents and children, and $.175$ for grandparents and their grandchildren. That these correlations are not due to environment but are due to heredity is shown by the fact that the correlation between offspring and maternal grandfather is greater than it is between offspring and paternal grandfather. If it were due to environment the paternal grandfather, whose environment was more nearly similar to that of the grandchildren, should show closer correlation in mental and moral characters than the maternal grandfather, whose life was spent in a different court.

On the other hand, the greater correlation in the case of the maternal grandfathers is easily accounted for by the more numerous intermarriages

between royal households in different countries than would occur in the same family of royalty in one country. That is, maternal grandfathers are, on the average, more closely related than paternal grandfathers, for the ancestral line would more frequently trace back to them. The exceptionally high correlation between great grandparents and their great grandchildren, which is .1528 instead of .075, is also undoubtedly due to inbreeding, which in generations so far removed from each other would be important in a class which intermarries so extensively as do royalty. These figures seem to make out a clear case for heredity as decidedly the principal factor in intellectual and moral qualities, at least in the class considered.

There is one point in this connection which the author has apparently overlooked. The class which he has considered may be assumed to have the most favorable possible environment. This possibly would tend to reduce any disparity between the intellectual and moral qualities of different generations and different individuals arising from difference in environment, leaving in the main only such differences as are due to heredity. If we were to consider a class of people whose environment was such as to tend strongly to repress high aspirations and to disparage high purpose we might find environment a much more important factor in the development of character than it is in royalty. However, the fact that such a study as Dr Woods has made, if made for a different class of our population, might give different results in no way detracts from the high value of the work done. It rather indicates the legitimacy of such study and the necessity of extending it amongst other classes of people.

On pages 283 and 284 the author remarks: "The reasons for the belief that heredity is almost the entire cause for the mental achievements of these men and women, and that environment or free-will must consequently play very minor rôles, may now be summarized: First, the practically perfect results derived from what might be expected of heredity, both from the internal study of the families separately, and from the curves and coefficients of correlation. Second, the fact that environment or opportunity would not cause, in royalty at least, the great names to occur in close blood connection with others of the same stamp."

That the advantages of first sons, who inherit the highest positions, has had no measurable influence — that is, that opportunity laid at one's feet counts for little as compared with inheritance, seems to be substantiated by the facts adduced by the author on pages 286 and 287: "The upshot of it all is that, as regards intellectual life, environment is a totally inadequate explanation. . . . We are forced to the conclusion that all

these rough differences in intellectual activity which are susceptible of grading on a scale of ten are due to predetermined differences in the primary germ cells. . . . That these outward circumstances have as much influence as is commonly supposed, or as much as predetermined and congenital causes, are, however, conclusions from which we are forced to dissent. . . ."

"The curves on plate 2 (page 288), with the exception of grade 5, give us results such as we might expect were heredity the sole cause, pure and simple, for moral character." On page 288 is given a diagram showing the average number of moral "deviates," or those in grades as low as 3, which each person possessed as a relative, and shows clearly that "on the average the lower grades had many more of this unfortunate ilk than had the mediocre and higher grades." The fact that morality is not due to environment, at least in the case of royalty, is shown by the fact that degenerates and individuals of high moral character are frequently produced in the same environment, evidently as the result of alternative inheritance.

"It is these strong contrasts, more than anything else, that must lead us to the conclusion that what we have in plate 2 is truly the effect of blood relationship, for environment should not cause this distribution. Spain, France, and Russia give us most of the degenerates. In these countries the individuals are closely associated in blood with insanity, epilepsy, or other psychoses. This is itself a coincidence to be explained by those who doubt that morality is much the result of inheritance." Furthermore: "When strong contrasts are found among the children we always find strong contrasts among the ancestors."

The general results of the study are summed up in the following, which will be found on page 298: "Quality possessed by entire ancestry is almost sure to appear. Quality possessed by one parent and half the ancestry is likely to appear with almost equal force, in one out of every two descendants. Quality possessed by one parent only, and not present in the ancestry, has one chance in about four for its appearance in the progeny. Quality not possessed by either parent, but present in all the grandparents and most of the remaining ancestry, would also have about one chance in two for its appearance in one of the children. If only one of the grandparents possessed the quality in question, then the chance of its appearance in any one of the grandchildren of this ancestor would be only about one chance in sixteen."

The occasional occurrence of a genius from mediocre stock is explained as one of "those fortuitous combinations of ancestral qualities that

is destined to make a person inheriting them vary much from any of his kin. . . . A man of this sort represents the combination of the best from many ancestors."

One can not read this book without feeling that it is a tremendous argument for the application of modern science in the breeding of the ruling classes. Fortunately the influence of these classes is not so great as it was at one time, hence the subject is not so important as it was a few hundred years ago. But Dr Woods has made us feel that heredity is a much more important part in the determination of character than it has had credit for. The sociologist will find this book an inspiration, as it points the way to the improvement of the race, a way which may not be feasible at the present time, but one which will be open in the near future.

In this connection it may not be out of place to mention the fact that the State of Indiana has recently placed on its statute books a law which removes the danger of inheritance from certain of the criminal classes. In operation this law has presented no difficulties.

I repeat that the work which Dr Woods has done in the preparation of his book deserves the careful attention of both the biologist and the sociologist.

W. J. SPILLMAN.

Righthandedness and Lefthandedness, with Chapters Treating of the Writing Posture, the Rule of the Road, etc. By GEORGE M. GOULD, M.D. Philadelphia and London: J. B. Lippincott Co., 1908. 210 pp., 15 figs.

Besides an Introduction (pp. 7-20) on theories as to the origin of righthandedness and lefthandedness, this book contains eight chapters, as follows: The origin of righthandedness. Why is a particular child right-handed or lefthanded? The rule of the road. Study of a case of two-handed synchronous writing. Visual function the cause of slanted handwriting; its relation to school hygiene, school desks, malposture, spinal curvature, and myopia. The pathological results of righteyedness and lefteyedness. A patient's struggle for right-eye function. The nomenclature of dextral, sinistral, and attentional organs and functions. All these chapters have appeared as articles in the *Boston Medical and Surgical Journal*, the *Long Island Medical Journal*, the *Popular Science Monthly*, the *Medical Record*, *Ophthalmology*, *American Medicine*, chiefly during the year 1907. This necessarily gives rise to some repetition of argument, etc.

The author, known also by his *Biographic Clinics* (1904) and other

works, writes at times more interestingly than convincingly, his dogmatism being not infrequently so pronounced as to injure his argument when persuasion and belief are most of all needed.

In the Introduction he enumerates nine theories (from the "natural provision" of Sir Charles Bell to "the Topsy theory, 'just grew'"), but by no means exhausts the list. The distinguished Italian anthropometrist and statistician, Dr Rodolfo Livi,¹ e. g., has recently held that the fundamental basis of the predisposition to righthandedness and lefthandedness is "uterine position," — it is said that in ninety per cent. of cases children are born in such a position that for some considerable time before birth the right hand must have enjoyed a greater freedom of movement, and, in consequence, a strengthening of its muscles, as compared with the left. Dr Gould's own views are expressed as follows:

"All that is needed to explain righthandedness in 94 per cent. of children is some ancestral savage custom, habit, or necessity, widely prevalent, which inclined to the use of the right hand and eye for one or two exceptionally intellectual tasks. The inheritance of aptitude, the force of custom, and the necessities of the struggle for existence would certainly fix the persistence of the peculiar excellence" (p. 12).

"The localization through war and barter of the cerebral centers of speech and writing (and hence of intellect) of 94 per cent. of the population in the left half-brain is the cause of righthandedness" (p. 61).

"Physiologically, therefore, the reason why an infant puts forth the right hand to grasp objects is because the right eye is the one which is nearest perfect visually, anatomically or optically. The law derived from the phylum of the entire past is that the right eye and right forefoot, or right hand, must work together. In all animals the right eye governs the placing and action of the right front foot, of the right side of the body, the guarding against dangers on the right side, etc. The left eye has the same office for the left side. . . Handedness, if one may devise the word, becomes either righthandedness or lefthandedness, according to the dictating condition of the better eyedness, right or left" (p. 44).

As in his *Biographic Clinics* and elsewhere, Dr Gould here magnifies, in all probability, the function of the eye; his explanation of right-handedness is apparently a compound of the old spear and shield idea with an optical physiological theory. To some this view may not appear so perspicuous and so satisfactory as it does to the author.

The "rule of the road" is settled also rather jauntily, as follows:

¹ Sulla causa del destrismo e del mancinismo, *Atti. d. Soc. Rom. di Antropol.*, 1908, XIV, 91-94. See also G. Buschan, *Menschenkunde*, Stuttgart, 1909, pp. 248-251.

"War made up the life and set all the fashions of beginning civilization, and war together with narrow streets established the custom of righthand passing, for walkers, riders of horses, asses, mules, etc., and for drivers of all vehicles, and for vessels. For walkers and vessels no people ever changed the custom, but especially the English, while preserving righthand passing in foot-passengers and on the sea, anomalously developed lefthand passing for vehicles, and the same, of course, for double-track railroads" (p. 90).

For very many peoples, past and present, who have been, or are now, concerned with the beginnings of navigation, horse-riding, vehicle-driving, etc., we have little or no evidence such as might justify some of the statements of the author. So, too, with the explanation offered of lefthand passing —

"The English lefthand passing of vehicles is probably due to the influence of the singlehand fights on foot, tourneyings and joustings of horseback-riders, in which meeting and passing to the left was inevitable. . . . In the United States there was a reversion to the righthand passing of vehicles, because of the abeyance of lefthand passing of vehicles, and of vehicles themselves, for so long, with growth of the natural righthand passing by walkers, horseback-riders, ox-teams, and wagons with drivers on the near-wheel horse, such as is found in the later prairie-schooner, and six-mule army wagon" (p. 91).

Much of the remaining material in this book, although of interest, more or less, to the anthropologist, belongs rather in the field of physiology and hygiene. The author hardly gains sympathy by his denunciation of "the 'ambidexterity' sillies" (p. 90), "those who are Mendel-crazed" (p. 50), etc. As examples of the dogmatism of statement referred to above these may be cited:

"By all savages for all time, in bargaining, the right hand has been held aloft, and one, two, three, or four fingers shown and flung at the opposed bargainer" (p. 25).

"It is of course nonsense that animals are rightfooted or leftfooted. The differentiation could only arise with sign-language and counting, and animals do not make gestures or count" (p. 35).

"No pupil with lefthandedness established can learn piano-playing easily" (p. 14).

As to the first of these statements, one has but to read Grierson's *The Silent Trade* (1903) and H. Ling Roth's *Trading in Early Days* (1908) to get glimpses of "other times and other manners." The second may be left to the comparative psychologists. Concerning the third, the reviewer is able to say that he knows a lady who is an accomplished musician and teacher of the art, although lefthanded from birth. She experienced no particular difficulty in learning to play the piano.

Altogether, it may be said that the question of righthandedness is not so not perfectly simple after all, the anthropological aspect of it, as well as the physiological and the psychological. This is appreciated by such very recent authorities as Audenio,² etc.

ALEXANDER F. CHAMBERLAIN.

Ethnology of the Yuchi Indians. BY FRANK G. SPECK. *Dissertation Presented to the Faculty of the University of Pennsylvania for the Degree of Doctor of Philosophy.* University of Pennsylvania, Anthropological Publications of the University Museum, vol. 1, no. 1. Philadelphia: Published by the University Museum, 1909. 4°, 154 pp., 16 pl.

This paper is doubly welcome, first on account of the importance of the material contained, and second because it is the first of a new series of anthropological publications.

The importance of a study of the Yuchi to the ethnologist is due to their unique position among American tribes, and this is a subject that requires some elaboration. Unlike the Pacific seaboard, the territory east of the Mississippi was occupied in precolumbian times by but few stocks, and these were nearly all widely spread, each embracing a large number of separate tribes and aggregating a considerable population. Omitting the Tunican tribes near the lower Mississippi, there were, in fact, but three occupying limited areas, the Beothuk of Newfoundland, the Timucua of Florida, and the Yuchi; and of these the first two are in all probability extinct and thus beyond the possibility of ethnological investigation. But while the unique position of the Yuchi has long been known, all of our information regarding them has hitherto been confined to a few cursory remarks by travelers and a short inadequate study, principally of their language, by the late A. S. Gatschet. In view of the universal tradition among Muskogean tribes, the next neighbors of these people toward the west, that they had come from the direction of the sunset, it has been long believed that the Yuchi represent the aboriginal inhabitants of at least part of the Muskogean area. Definite data bearing on that point was, however, scarcely existent. Thanks to Dr. Speck this state of affairs exists no longer, and, if we do not have all the information we would like, we at least have sufficient to form a very good picture of the material, social, and ceremonial position of this peculiar people. The only wonder is that, in the years of white contact and aggression, so much has remained, and this can only be accounted for by a fortunate escape of the Yuchi from any severe blow from without, the

² *R. Sperim. di Fren.*, 1909, xxxv, 287.

protection of the Creek confederacy to which they were early admitted, and the natural conservatism of the people due to their unique language. A full discussion of the language has been reserved by Dr Speck for another time and manner of publication, and will be awaited with eagerness by ethnologists. Aside from this and certain general considerations, such as the history of the people, their population, and environment, Dr Speck considers the following general topics: Material Culture, Decorative Art and Symbolism, Music, Division of Time, Social and Political Organization, Warfare, Games, Customs, Religion, and Mythology. In their material culture one recognizes much the same status as that found throughout the territory of the Gulf states in ancient times, and in the social organization and mythology, as might have been anticipated, they resemble the Creeks with whom they have been so long in contact. As to who have been the principal borrowers in cultural elements, themselves or the Muskogee, there is a difference of opinion, but it appears that while the Yuchi claim that their customs have been borrowed by the Creeks, the latter merely contend for an independent origin on the part of their own customs, a fact which seems to favor the Yuchi contention. The Yuchi are peculiar, however, in believing themselves the children of the sun, and in consequence their art, ceremonials, and mythology exhibit solar motives throughout. Thus at the time of the great annual festival the town square with its three benches is supposed to represent the rainbow, the fire in the center being the sun; and it is explained that the ceremony was originally enacted in the sky, and the first man thereby instructed as to its proper observance. Like their Muskogean neighbors the Yuchi were divided into a number of totemic clans perpetuated through the women, descent being traced from the totem animal. Unlike clans in many parts of America, however, the slaughter of a clan animal was prohibited to members of that clan, though the dead bodies or portions of them might be obtained from members of other clans. No true phratries existed, but there was a curious dual division into classes called Chiefs and Warriors, transmitted in the male instead of the female line. These governed matters of peace and war respectively, took opposite sides at the ball game, and occupied distinct lodges at the annual ceremony. Such a mixture of male and female descent is perhaps the most curious point connected with the Yuchi tribe.

Dr Speck's investigation being ethnological rather than historical, considerable documentary information regarding the tribe is still to be added, but this can be done at any time, whereas the ethnology will undoubtedly lose its ancient character every year and finally pass out of ex-

istence. When in Columbia, South Carolina, to examine the State records, the reviewer noted several interesting facts connected with this tribe, particularly that in 1714 a Yuchi town called "Chestowee" or "Ches-toowa" was "cut off" by the Cherokee at the instigation of some English traders. Possibly the people of this town spoke the second dialect to which Dr Speck refers in the paper under discussion. Another name given the Yuchi by the English was "Round town people."

All that need be said in conclusion is that at last we have an authoritative monograph on the Yuchi and that the University of Pennsylvania is to be congratulated on having its new series of anthropological publications open with the filling in of a serious gap in the ethnology of North America in such a thorough manner.

JOHN R. SWANTON.

The Origins of Leadership. A Dissertation Submitted to the Faculty of the Graduate School of Arts and Literature in Candidacy for the Degree of Doctor of Philosophy (Department of Sociology). By EREN MUMFORD. University of Chicago Press, 1909. 87 pp. (Price 54 cents.)

This short paper is one of the many signs of an increasing tendency on the part of students of sociology among well-developed races to make use of anthropological data derived from primitive tribes, and it must be approached critically with the understanding that it claims merely to be a trail blazer. This working of sociology back into the field of primitive anthropology might have been anticipated, and was bound to come when the question of origins was entered upon. Up to the present time writers on the sociology of lower races, such as McLennan, Frazer, Westermarck, and Morgan, have been regarded rather as anthropologists than sociologists, but the partition of the sociology of primitive races from that of the advanced nations of our day is very artificial, and as time goes on there will be an increasing tendency to break it down.

Starting as he does from the point of view of the sociologist, as ordinarily defined, Dr Mumford leads up to his subject by a discussion of general basal principles couched in the technical language of psychology and sociology. It is only in the latter part of his paper that the anthropological element becomes strong and that the anthropologist feels able to form a due estimate of the value of his work. The study is divided as follows:

I. *Introduction.*—The Relation of the Function of Leadership to the Science of Sociology.—Leadership as a Universal Function of Association.—Relation of Leadership to the Social Process.

II. *Leadership as an Innate and Acquired Model Societary Tendency or Force.*

III. *Relation of Leadership to the Organized and Organizing Phases of the Social Process, or to the Habitual-tensional-adaptive Phases of Associating* [general considerations]. — Leadership and Occupations. — Leadership, Occupations, and Institutions in Relation to the Problems and Crises arising in the Expression of Social Impulses and Interests.

IV. *Leadership and Social Structures and Functions from the Genetic Point of View.* — Hunting People.

V. *Evolution of Leadership in the Prematernal Stage of Association.*

VI. *Evolution of Leadership and Institutions in the Matriarchal and Patriarchal Stages of Social Organisation.* — Leadership in Relation to Customs and Institutions from the Point of View of Myths and Traditions. — The Native Tribes of Australia. — Leadership among the Native Hunting Tribes of America.

VII. *Conclusion.*

These subjects thus fall into two main classes, first the place and importance of leadership in the science of sociology, and secondly the different phases which it presents among peoples in the hunting stage, the last being considered evolutionally. It is unfortunate, in the present state of anthropological information, and yet natural, that the evolutionary side of the question should have been given the prominent position it here occupies, not but that leadership evolutionally considered is a legitimate subject of discussion, but because it was infallible that Australian and American systems should be dragged together and assigned to different strata in the series of human development. It was infallible because the chief authorities to whom Dr Mumford could appeal have done the same thing, whereas it is entirely too early to attempt an assignment of the respective positions of Australian and American organizations in the world-wide course of human development. This should by no means be attempted until American, African, and Asiatic social systems are much better understood. Dr Mumford has been fortunate, however, in using Professor Thomas as a guide, and therefore postulating a prematernal stage of association, and he has followed a true instinct in not differentiating between the matriarchal and patriarchal stages of society, though he falls into the common error of assuming two such successive stages.

The most serious criticism to be made of this work is the apparently meager list of authorities consulted. The principles discussed in the early sections are so general and supposedly deal with such well established axioms of sociology that few references might naturally be required, but

Bancroft, Schoolcraft, Krause, J. O. Dorsey, and McGee form a rather limited ethnological foundation for the discussion of American social organizations, although excellent so far as they go. The pioneer character of the work from a sociological point of view may, however, be pleaded as an excuse for no more extended consultation of authorities, and in this capacity we cordially welcome it, foreseeing that trained sociological minds once acclimated to the anthropological field will be able to throw new light on the problems often confounding professional anthropologists.

JOHN R. SWANTON.

Nouvelles recherches sur la formation pampeenne et l'homme fossile de la République Argentine, recueil d'observations scientifiques . . . publié par ROBERT LEHMANN-NITSCHÉ.

It seems a curious coincidence that about the same time Dr Aleš Hrdlička published his excellent "Skeletal Remains Suggesting or Attributed to Early Man in North America (*Bulletin 33, Bur. Am. Eth.*)", Professor Lehmann-Nitsche at La Plata edited a work similar in purport relating to the antiquity of man in South America. What Professor W. H. Holmes has said in the prefatory note to Hrdlička's treatise applies equally to South America: "In the earlier years of the investigations there existed a rather marked tendency on the part of students, and especially on the part of amateurs and the general public, hastily to accept any testimony that seemed to favor antiquity." With this in view Lehmann-Nitsche endeavored to determine the real scientific value of all known fossil human remains found in Argentina. The results of this painstaking research, extending over nearly ten years, though often interrupted, are embodied in these *Nouvelles recherches*, published in tomo XIV (Segunda serie, t. 1) of the *Revista del Museo de La Plata*, Buenos Aires, 1907. Although Lehmann-Nitsche's work is much larger in size, and perhaps more exhaustive than Hrdlička's, it should be borne in mind that the former had the aid of no fewer than ten specialists, including geologists and paleontologists of note, as follows, in alphabetical order: Burckhardt, Doering, Frueh, von Ihering, Leboucq, R. Martin, Santiago Roth, W. B. Scott, Steinmann, and Zirkel.

To write a review, in a few pages, of a work of this size (about 350 pages, royal octavo), abounding in minute technical descriptions and extended dissertations, is impossible. I shall therefore merely draw the attention of North American anthropologists to Professor Lehmann-Nitsche's researches by means of a brief summary.

The *Nouvelles recherches* consists of two parts—one geological, the

other paleoanthropological. Both parts are closely connected. The three subdivisions of the loess which Lehmann-Nitsche distinguishes (upper Pampa formation = yellow loess; middle Pampa formation = brown loess; lower Pampa formation = "loess brun pain d'épice") are examined in view of their fossils bearing on the question of fossil man. In addition, the local Pampa formations of Buenos Aires, Santa Fé, and Córdoba are carefully described. Lehmann-Nitsche took up the question from the very beginning. Each find on record since 1864 was subjected to rigid scrutiny. His personal research, together with that of some of his contributors, is divided into field work, studies of osseous remains and of real or quasi implements in various museums and private collections, and bibliographic studies. Thus is afforded a complete history of paleoanthropology in Argentina.

In succession the following finds of human skeletons and other bones, some of which have become celebrated, are described: Carcaña, Frias I and II, Saladero, Fontezuelas (wrongly called Pontimelo), Samborombón, Arrecifes, Chocorí, La Tigra, and Baradero. The general result is that all these finds may be considered as fossil, or at least as sub-fossil — all Quaternary, it is true, but of a relative geological antiquity. It must be pointed out, however, that these osseous remains resemble either those of ancient Patagonians or of South American Indians of present types; there is no special fossil primitive type among them. For those who might still be inclined to doubt, one can say that some of these remains, at least, may be called fossil with the same right as the now extinct *Glyptodon*, with which man was undoubtedly contemporaneous in South America.

A discovery of great importance deserves special mention, as it proves the existence of an anthropoid in the Pliocene (Tertiary), treated at length on pages 386-410 of *Nouvelles recherches*. Many years ago a first cervical vertebra (atlas), supposed to be human, was found with fossil animal bones in the lower Pampa formation ("loess brun à pain d'épice") at Monte Hermoso. It was, however, only in rearranging the collections of La Plata Museum that Lehmann-Nitsche's attention was drawn to this vertebra. After a very careful comparative examination of it, he reached the conclusion, on purely anatomical grounds, that it belonged to a Tertiary precursor of man, related to *Pithecanthropus erectus*, and applied to it the name *Homo neogirus*. It seems somewhat strange, however, that Lehmann-Nitsche should think this name-giving "a matter of taste." He himself states clearly (although with a *peut-être*) that he considers it "a special ancestral South American form of *Homo sapiens* or *primigenius*." Ludwig Wilser, who wrote a brief review of Lehmann-

Nitsche's preliminary paper on this discovery, proposes the name *Proanthropus neogaeus*, which would seem to be more appropriate.

The collections and researches bearing on the question of fossil man in Argentina by two well-known paleontologists, Florentino Ameghino and Santiago Roth, come next under the searchlight. Although as a rule due credit is given to Dr Roth, Dr Ameghino on the contrary is somewhat roughly handled; yet Lehmann-Nitsche's criticism, severe as it is, is fully justified. An important work of Ameghino, *La antigüedad del hombre en el Plata*, is, figuratively speaking, partly torn to pieces. Many an "implement," so called, is proven to be no implement at all; and several objects on which Ameghino detected traces of man's handiwork are meaningless as such. *Homo pampeus* (the skeletal remains of La Tigra) and *H. pliocenicus*, "created" by Dr Ameghino, like so many other new fossil genera or species of animals found by him, are shown to be mythical. In this respect pp. 200-203, 334-336, 423-428, 448-450, 456-460 of *Nouvelles recherches* are particularly interesting.

If Lehmann-Nitsche's criticism is well founded, and the reviewer for one has not the slightest doubt it is, one is certainly justified in assuming a sceptical attitude in considering the alleged new discoveries of Ameghino at Monte Hermoso and the theories based thereon.¹

The general conclusion of Lehmann-Nitsche for South America is far more positive than that of Hrdlička for North America. If the latter expresses doubt as to the Nebraska "loess man," the former undeniably proves that in Argentina real loess men are found. The discovery of *Homo neogaeus* in the Pliocene of Argentina, above mentioned, would seem to give greater probability to the ultimate discovery of a somewhat similar link in North America.

Nouvelles recherches contains a great number of illustrations, most of them very good, together with several geological profile drawings, and a map showing sites of fossil finds from Rosario to Baradero. In studying the volume, the want of a general index and of a map on which all the finds in Argentina are located is greatly felt.

This brief review will suffice to show that *Nouvelles recherches* forms a very important contribution to American paleoanthropology for which all earnest students will be grateful. A word of acknowledgment is also due to Mr Felix F. Outes, director of publications at the La Plata Museum, to whose untiring efforts and interest in the matter the work was published in Argentina.

H. TEN KATE.

¹ Cf., among other reviews of Ameghino's, "*Tetraprothomo argentinus*" = *H. neogaeus* L.-N., *Zentralblatt f. Anthropologie*, XIV, 1909, pp. 224-226.

SOME NEW PUBLICATIONS

EMERSON, NATHANIEL B. *Unwritten Literature of Hawaii. The Sacred Songs of the Hula. Collected and Translated, with Notes and an Account of the Hula, by Nathaniel B. Emerson, A.M., M.D.* Bureau of American Ethnology, Bulletin 38. Washington: Government Printing Office, 1909. 8°. 288 pp., 24 pl., 3 fig., 14 musical pieces.

ENGERRAND, J., and URBINA, F. *Nota preliminar acerca de un yacimiento prehistorico ubicado en Concepcion (Estado de Campeche) acompañada de un resumen Frances.* From *Boletín de la Sociedad Geológica Mexicana*, tomo VI, pp. 79-87, pl. xxvii-l, Mexico, 1909.

GERSTE, A. *Notes sur la médecine et la botanique des anciens Mexicains.* Rome: Imprimerie Polyglotte Vaticane, 1909. 8°, 161 pp.

This valuable pamphlet was published at the expense of the Duc de Loubat.

JOHNSON, WALTER. *Folk-memory, or the Continuity of British Archaeology.* Oxford: Clarendon Press, 1909. 8°, 416 pp.

MARQUETTE. *Facsimile of Père Marquette's Illinois Prayer Book. Its History by the Owner, Colonel J. L. Hubert Neilson, M.D.* Quebec, 1908: Published by the Quebec Literary and Historical Society in Commemoration of the 300th Anniversary of the Founding of Quebec, July, 1908.

History, 13 pp.; portraits of Marquette and Casot; illustration (personal articles of Marquette); facsimile of the prayer-book in the Illinois language, 177 pp. 300 copies issued.

PENNELL, T. L. *Among the Wild Tribes of the Afghan Frontier.* London: Seeley, 1909. 8°.

RASMUSSEN, KNUD. *The People of the Polar North. A Record Compiled from the Danish Originals and Edited by G. Herring. Illustrations by Count Harald Moltke.* Philadelphia: J. B. Lippincott Co., 1908. 8°. (xix,) 358 pp., ill.

ROBINSON, DOANE. *Sioux Indian Courts. An address delivered before the South Dakota Bar Association at Pierre, South Dakota, January 12, 1909.* 8°, 14 pp.

SAPIR, EDWARD. *Wishram Texts, Together with Wasco Tales and Myths, collected by Jeremiah Curtin and edited by Edward Sapir. Publications of the American Ethnological Society, Vol. II.* Leyden: Late E. J. Brill, 1909. 8°, xv, 314 + 4 pp.

SHAW, GEORGE C. *The Chinook Jargon and How to Use it. A Complete and Exhaustive Lexicon of the Oldest Trade Language of the American Continent.* Seattle: Rainier Printing Co., 1909. 12°, xvi, 65 pp.

SWANTON, JOHN R. *Tlingit Myths and Texts.* Bureau of American Ethnology, Bulletin 39. Washington: Government Printing Office, 1909. 8°, viii, 451 pp.

THALHITZER, W. Ethnological Description of the Andrup Collection from East Greenland Comprising Objects found in Eskimo House-ruins and Graves North of Angmagsalik between 68° and 75° lat. N. Reprinted from *Meddelelser om Grønland*, vol. XXVIII. Copenhagen: Printed by Bianco Luno, 1908. 8°, pp. 319-342, 2 pl., 106 fig.

THOMAS, WILLIAM I. Source Book for Social Origins. Ethnological Materials, Psychological Standpoint, Classified and Annotated Bibliographies for the Interpretation of Savage Society. Chicago: University of Chicago Press, London: T. Fisher Unwin, 1909. 8°, xvi, 932 pp. (\$4.77, prepaid.)

THOMSON, JOHN STUART. The Chinese. Their Antiquity; their Daily Life; their Art and Literature; their Humor and Philosophy; their Politics and International Position; their Religions and Superstitions; the Resources, Scenery and Climate of the land they live in; their Commerce, Business and Future Possibilities, etc. Indianapolis: Bobbs-Merrill Co., 1909. 8°, 441 pp., ill.

ANTHROPOLOGIC MISCELLANEA

American Anthropological Association Meeting.—The annual meeting of the AMERICAN ANTHROPOLOGICAL ASSOCIATION will be held in Boston, December 27, 1909, to January 1, 1910, in affiliation with Section H of the American Association for the Advancement of Science and the American Folk-Lore Society.

A Kutenai Berry-basket.—In a recent number of this journal, Professor Chamberlain, in speaking of the Kutenai Indians, states that all writers treating of American basket-makers have overlooked the basketry of this tribe. In this connection a little Kutenai berry-basket in the collections of the American Museum of Natural History may be of interest.

This basket is of the coiled type, with a surface partially covered by imbrication, and comes from a tribe inhabiting the northeastern boundary of the large territory where imbricated coil is practised. This large area is situated in southern British Columbia and northwestern United States, and is occupied by a number of tribes from the Shahaptian, Salish, Kitunahan, and Athapascan families. It is, so far as is now known, the only locality in which baskets are imbricated—a process which needs no description here, as a full account is found in Professor Mason's work.¹

Excluding Kutenai baskets, the area of imbricated basketry divides itself into two groups—a northern and a southern. Baskets from the southern group are mostly of inverted truncate-cone shape, of greater height than width; the designs are heavy, covering the whole field; and the edge is finished with a false braid. In contrast with this, baskets of the north are more generally of trunk shape and not of greater height than width; the designs are less heavy; and the edge is made by the last row of regular coiling.

The shape of the Kutenai berry-basket in question, as well as the small "kettle" figured by Professor Chamberlain in his report on this tribe in 1892,² and which strongly resembles the berry-basket here illustrated, would exclude the Kutenai from either of the basketry regions mentioned. Its design, however, in some ways suggests the design of the

¹ *Aboriginal American Basketry, Rep. U. S. Nat. Mus. 1902, p. 255, 1904.*

² *Rep. B. A. A. S., 62d Meeting, 1892, p. 545, 1893.*

Thompson River Indians, a tribe of the northern group ; while its edge is also characteristic of the basketry of the same region. In addition to these features of similarity, the berry-basket has bands of an ornamented overlay, occasionally found on baskets only of the northern tribes, and usually accompanying imbrication.

Imbrication is always constructed on a coiled technic, frequently on a bifurcated coil — that is, one in which the binding element of any one round pierces or splits the binding element of the previous round. This bifurcation admits of two variations: (1) the binding element may be so



FIG. 99. — A Kutenai berry-basket.

guided as to produce vertical lines of bifurcate units on the body of the basket or corresponding stripes on the cover and base, or (2) the binding element may be allowed to take its course without special regard to this effect. The first variety, frequently called braid bifurcated coil, is the technic of the Kutenai berry-basket as well as that of Chilcotin and some of the Shuswap¹ coiled ware.

¹ James Teit, *The Shuswap, Mem. Am. Mus. Nat. Hist.*, vol. 1v, p. 490.

Either variety of bifurcated coil may be imbricated, but the second only — the braid bifurcation — admits of the kind of ornamental overlay found on the berry-basket. The accompanying illustration (fig. 99) shows two vertical bands of imbrication and overlay: these alternate about the basket. The overlay, which is styled "beading" by Mason,¹ consists of a horizontal strip of material, usually cherry-bark or squaw-grass, laid over the coiling and caught under every other turn of the binding element. Ornamental beading has been found occasionally on baskets said to come from the interior Salish, the Thompson and Fraser River Indians. A careful study of this point would no doubt result in a definite knowledge of just which tribes practised beading, or to what extent the distribution is due to trade. Such a study would also throw light on the frequency of the technic of beading among the Kutenai.²

A similar overlay is found in northeastern Africa, where there exists a great bifurcated-coil area. On the African basket, however, a stiff band is used as the overlay, and is caught down every three or four turns by a binding element of thin fiber. The difference in materials gives the overlay the appearance of strips crossed at times by lacy braidings.

Another style of overlay, found among the Lillooet, is based on the irregular variety of bifurcation and consists of extra strips caught under the binding element in a somewhat irregular order.³ This repeats itself in more exact pattern on coiled baskets of the Congo basin and the headwaters of the Zambesi river.

MARY LOIS KISSELL.

AMERICAN MUSEUM OF NATURAL HISTORY
NEW YORK

Measurements of Chukchis. — Through the courtesy of Mr. J. A. Gorman opportunity has been afforded to examine anthropometrically twenty-one maritime Chukchi, forming part of an exhibition of Siberian native life to be shown at the Alaska-Yukon-Pacific Exposition in Seattle. These people are from two villages, Nunyamo and Vandanga, which correspond to Dr W. Bogoras's Nuna'mun and Yanrafai, situated between Indian Point and East Cape, as given on page 30 of volume VII of the Publications of the Jesup North Pacific Expedition.

The averages obtained agree closely with the summaries given of a

¹ Op. cit., fig. 55.

² Kutenai baskets are among the collections of the Field Museum of Natural History, and some other American museums also may possess them.

³ James Teit, *The Lillooet*, *Mem. Am. Mus. Nat. Hist.*, vol. IV, fig. 69d.

Name	Age	Sex	Stature	Reach	Length Head	Breadth Head	Chin to Nasion	Breadth Face	Length Nose	Breadth Nose	Strength Right Hand ¹	Strength Left Hand ¹	Color ²	Reach Index	Cephalic Index	Facial Index	Nasal Index
1. Onto	55	M	1650	1700	200	153	128	150	69	43	27	26	24	103.0	76.5	85.3	71.7
2. Onqaurigon	45	M	1770	1770	198	151	121	150	53	40	43	40	24	100.0	76.3	86.7	75.5
3. Derma	45	M	1600	1700	194	149	131	139	56	36	45	40	24-25	102.4	76.8	94.2	64.3
4. Neketu	45	M	1625	1640	195	156	109	141	40	38	—	32	24	100.9	80.9	77.3	95.0
5. Qumontorio	35	M	1655	1680	191	156	110	148	48	59	44	35	24	101.5	81.7	74.3	81.3
6. Joe Cook	35	M	1600	1620	188	158	112	144	51	59	44	35	25	101.3	84.0	77.8	76.5
7. To'ono	30	M	1690	1710	191	152	116	143	48	40	42	35	25	101.2	79.7	81.1	82.3
8. Paot	28	M	1610	1630	191	152	123	140	47	37	44	42	24	101.2	79.7	87.9	78.7
9. Onqin	21	M	1640	1710	193	153	120	137	49	40	44	37	25	104.3	79.3	87.6	81.6
10. Anqautau	16	M	1570	1590	180	147	107	140	44	35	30	29	25	101.3	81.7	76.4	79.5
11. Ta'ayorgi	16	M	1590	1565	198	157	120	146	48	40	40	38	25	98.4	79.3	82.2	83.3
12. Onqau	12	M	1400	1460	172	146	108	132	44	30	26	22	24	100.0	84.9	81.8	68.2
13. Gelauwi	11	M	1420	1440	181	145	111	129	43	35	23	17	24	101.4	80.1	86.0	81.4
14. Dal'ulutut ¹	7	M	1180	1150	180	139	88	116	34	32	10	9	24	97.5	77.2	75.9	94.1
15. Blicionau	90	F	1440	1505	180	143	101	139	39	36.5	20	15	25	104.5	79.4	72.7	91.6
16. Wentufia	40	F	1560	1590	181	145	113	138	47	39	24	20	24	101.9	80.1	81.9	82.9
17. Mutufia ¹	30	F	1520	1560	188	154	113	140	38	37	23	20	24	102.6	81.9	80.7	97.4
18. Gum'ot	25	F	1620	1670	186	154	108	147	46	38	26	31	24-25	103.1	82.8	73.5	82.6
19. Kuowauw	22	F	1560	1600	181	146	114	140	45	39	23	25	24	102.6	80.7	81.4	86.7
20. A'tulia	18	F	1590	1520	176	150	104	134.5	42	39	23	16	24	95.6	85.2	77.3	92.0
21. Kuku'k	11	F	1400	1380	181	146	101	130	38.5	34.5	17	14	24	98.6	80.7	77.7	89.6
AVERAGE 9 MEN			1656	1684	193.4	153.3	118.	143.6	50.2	39.1	43.7 ³	37.3 ²		101.8	79.3	82.9	78.7
AVERAGE 6 WOMEN			1548	1574	182	148.7	108.8	139.8	42.8	38.1	23.2	21.2		101.7	81.7	77.9	89.4
AVERAGE 21 PERSONS														101.1	80.4	80.7	82.9

¹ Half-blood.² Kilograms.³ Seven men below age 50.⁴ +, darker; —, lighter; R, redder; n, less red.⁵ Too light and reddish to be compared with standard.

much larger series of measurements by Dr Bogoras on page 33 of his work :

<i>Stature :</i>	Bogoras, 148 men, 1622 mm.
	Kroeber, 9 men, 1656 mm.
	Bogoras, 49 women, 1520 mm.
	Kroeber, 6 women, 1548 mm.
<i>Cephalic Index :</i>	Bogoras, men, 82 ; women, 81.8
	Kroeber, 21 individuals, 80.4

Dr Bogoras's figures presumably include both maritime and reindeer Chukchi.

As will be seen from the appended table, the faces and noses of the women are nearly as broad but much shorter than those of the men, if so small a series can be relied upon for averages at all near the true ones. This result at any rate confirms the visual impression made by the two sexes.

As regards color of skin, the women have the appearance of being somewhat lighter than the men, and the comparisons with Dr Hrdlička's tables in Bulletin 39 of the United States National Museum seem to bear out this impression. The examination was made on the upper part of the inner side of the forearm. The tone of the majority of individuals lies between shades 24 and 25 of the table, being somewhat darker than 24 and somewhat less red than 25. It is necessary to remember that these people had for several months been leading an unwonted indoor and cleanly life. The color is almost identical with that of the Indians of northwestern California, as similarly tested, but distinctly lighter and less coppery than that of a number of Philippine Igorot described in volume 8 of the *American Anthropologist*.

The strength tests show remarkable uniformity, particularly for the right hand, seven men from twenty to forty-five years old exerting a pressure of between 42 and 45 kilograms, and six women of eighteen to fifty years of age varying between 20 and 26 kilograms. The average, as usual with uncivilized peoples, is below that for whites, whether through inferior muscular power or on account of less concentration and effort, is doubtful.

Thanks are due Mr T. T. Waterman for assistance in making the measurements and to Mrs E. G. Field for the computations.

A. L. KROEBER.

The "Centenary Congress" of Americanists. — At the Sixteenth Session of the International Congress of Americanists, held at Vienna in September, 1908, it was resolved to hold the Seventeenth Congress both

in Buenos Aires, Argentine Republic, and in the City of Mexico, and that in commemoration of the centenary of the independence of the two republics, it be known as the "Centenary Congress." From the announcement of the committee of organization, dated July 1, the sessions to be held in Buenos Aires will commence May 16 and close May 21, and from the well-known members of the committee there would seem to be no question as to the success of the meeting. The president of the committee is Dr José Nicolás Matienzo, Dean of the Faculty of Philosophy and Letters in the National University at Buenos Aires; the vice-presidents are Prof. Juan B. Ambrosetti, Dr Angel Gallardo, Prof. Otto Krause, Prof. Samuel A. Lafone Quevedo, and Sr Enrique Peña; the treasurer, Sr Alejandro Rosa (Director of the Mitre Museum); the vice-treasurer, Dr Jorge Echayde; the general secretary, Dr Robert Lehmann-Nitsche; and the secretaries, Dr José Luis Cantilo and Prof. Luis María Torres. Many of the active officers of the Congress are already too well known in North America to need introduction. For example, Dr Ambrosetti, Director of the Ethnographic Museum in the Faculty of Philosophy and Letters in the National University at Buenos Aires and one of the vice-presidents of the New York Congress in 1902; Professor Lafone Quevedo, Director of the Museum and Dean of the Faculty of Natural Sciences at La Plata; Dr Lehmann-Nitsche, Chief of the Anthropological Section of the La Plata Museum and Professor of Anthropology in the Universities of Buenos Aires and La Plata, and Dr Torres, Professor in the Museum of La Plata, are all members of the American Anthropological Association and distinguished for their contributions to South American anthropology. The Congress is to be held under the patronage of H. E. Dr Victorino de la Plaza, Minister for Foreign Affairs, and H. E. Dr Rómulo S. Naón, Minister for Justice and Public Instruction. The honorary presidents are Dr Florentino Ameghino, Director of the National Museum; Dr Julio Deheza, Rector of the National University at Córdoba; Dr Juan Ramón Fernández, ex-Minister for Justice and Public Instruction; Dr Joaquín V. González, President of the National University at La Plata; Sr Manuel J. Güiraldes, Intendente Municipal of Buenos Aires; Dr Vicente G. Quesada, of Buenos Aires University; Dr José María Ramos Mexía, President of the National Board of Education; Dr Eufemio Uballes, Rector of the National University, Buenos Aires; and Dr Estanislao S. Zeballos, ex-Minister for Foreign Affairs, Justice, and Public Instruction. In addition, there are twenty-six members of the Committee of Organization, all noted for their scholarship. With such a committee, the gathering at Buenos Aires promises to

be one of the most important in the annals of the Congress of Americanists.

In accordance with the rules of the Congress, the subjects that may be considered relate (1) to the indigenous races of America, their origin, geographical distribution, history, manners, customs, and apparel; (2) to the indigenous monuments and archeology of America; (3) to the history of the discovery and the European occupancy of America. Papers may be presented in English, French, German, Italian, Portuguese, or Spanish, and should require not more than twenty minutes' reading. A summary of each paper, not exceeding one thousand words, must be submitted before March 1. The membership fee is five dollars, and members are entitled to all the privileges of the Congress and a copy of the published proceedings.

For further information applicants should address Dr Robert Lehmann-Nitsche, general secretary, Calle Viamonte 430, Buenos Aires.

It is expected that preliminary announcement of the sessions to be held in the City of Mexico during September following will be made shortly.

Kutenaiian and Shoshonean. — In his sketch of the Kutenai language, published in 1892,¹ the writer, confirming the independent character of this linguistic stock, spoke of "a seeming similarity in a few points of general structure to the Shoshonean and to the Siouan tongues." The question of a possible relationship between the Kutenaiian and Shoshonean stocks is an interesting one, but the most careful examination of the material available up to the present has not justified such a view. For the assumption of this relationship there exists no convincing lexical, morphological, or grammatical evidence. It may, however, be well to record here the few facts that might be held to point in such a direction. A very recent comparison by the writer of the vocabulary of Kutenai with those of a number of Shoshonean languages, from Ute to Nahuatl and some of the Sonoran tongues, has revealed no instances of other than apparently accidental resemblances, such, e. g., as Kutenai *agtsak*, Gitanemuk *a-tsaka*, 'leg.' One of the numerals shows what may, perhaps, be something more than accidental resemblance. With Kutenai *qātsā*, 'four,' *wōqātsā*, 'eight,' may be compared Gabrieleño *watsa*, 'four,' *weher watsa* (2 × 4) 'eight'; Serrano *watca* and *wa'wutc*, etc. 'Four' is *watciw* in Ute-Chemehuevi; *watci* in Mono-Paviotso, *witcu* in Luiseno-

¹ *Brit. Ass. Adv. Sci.*, Edinburgh Meeting, 1892. *Eighth Rep. on Northwestern Tribes of Canada*, p. 45.

Cahuilla. A number of Shoshonean languages have a *w-* stem for 'two,' e. g., Luiseno-Cahuilla *wi-*, Serrano *wo-*, Mono-Paviotso *wak-*, Ute-Chemehuevi *wai-*, Cahita *wai-*, etc., which may be compared with the *wə-* of Kutenai *wə-qātsā* (2×4).¹ The morphological structure of the Kutenai noun (e. g., *āq-kin-k-ān-āk-tām-nām*, 'crown of head') and verb (e. g., *hin-ts-qāll-ālpāll-n-āp-i-nē*, 'you shall hear me') does not suggest close relationship with any of the Uto-Aztecan languages so far on record. This is evident from the most recent authoritative sketch of such Shoshonean tongues as the Bannock and Shoshoni, and the Ute.² Kutenai knows no grammatical or morphological employment of reduplication, and it makes great use of both suffixes and prefixes. Probably all the special Shoshonean linguistic devices of a morphologic sort are absent from Kutenai. A recent paper by Ralph V. Chamberlain³ contains a fact or two of interest here. With the Ute, *-tē*, *-tē*, *-dē*, "a common ending of names of plants and animals," may be compared Kutenai *-ts*, of like nature and frequency. Ute *ūwits* and Kutenai *qāwits*, 'plover' have a close resemblance, but here again probably accidental. So far, then, as our present knowledge goes, Kutenai cannot be affiliated, even remotely, with Shoshonean, but must keep its status as an independent linguistic stock.

ALEXANDER F. CHAMBERLAIN.

Miss Johanna Mestorf, whose death occurred July 20, at Kiel, after she had passed her eightieth birthday (April 17), was in several respects a remarkable woman. Born, the daughter of a physician, at Bramstedt (Holstein) in 1829, she came early into contact with the great Scandinavian archeologists of the day, — Worsaae, H. Hildebrandt, Sophus Müller, and others, — some of whose works she translated into German (1867–1882) in masterly fashion, always adding something of her own to what she found there. Wiberg, Sæve, Hildebrandt, Worsaae, Müller, Undset, and others were deeply indebted to her for the wider circulation of their books and the more or less sympathetic presentation of their theories and the results of their investigations. But Miss Mestorf was herself author and investigator, particularly of the archeology of Schleswig-Holstein and the Danish islands. In 1877 she published *Die vätter-*

¹ See A. L. Kroeber, Shoshonean Dialects of California, *Univ. of Calif. Publ. Amer. Arch. and Ethnol.*, 1907, IV, 65–165, and R. B. Dixon and A. L. Kroeber, Numeral Systems of the Languages of California, *American Anthropologist*, 1907, N. S., IX, 663–690.

² A. L. Kroeber, The Bannock and Shoshoni Languages, *American Anthropologist*, 1909, N. S., XI, 266–277, and Notes on the Ute Language, *ibid.*, 1908, N. S., X, 74–87.

³ Some Plant Names of the Ute Indians, *ibid.*, 1909, N. S., XI, 27–46.

ländischen Altertümer Schleswig-Holsteins, and on the occasion of the jubilee of the Kiel Museum in 1885, another very important monograph on *Die vorgeschichtlichen Altertümer aus Schleswig-Holstein*. Her Reports for the Museum were always of interest, and during forty years she contributed from time to time to *Globus* many articles on divers topics, from the religion of the ancient and modern Eskimo of Greenland to the "house-pits" of the stone age in Holstein. Numerous ethnological articles (some of a folk-lore nature) also appeared in the *Verhandlungen der Berliner Anthropologischen Gesellschaft*, the *Mitteilungen des Kieler Anthropologischen Vereins*, etc. While living in Hamburg, she was called to the Kiel Museum of National Antiquities as curator by Professor Handelman, whom she succeeded as director, holding office till her death. She enjoyed the friendship of Rudolf Virchow, the great German anthropologist, who in 1894, at the celebration of the twenty-fifth anniversary of the foundation of the Berlin Anthropological Society, paid her this tribute: "We look with pride upon Mestorf, who has so brilliantly justified the entrance of woman into the field of prehistoric archeology." Miss Mestorf received not a few high honors. In 1891 she was elected an honorary member of the Berlin Anthropological Society. On her seventieth birthday the Prussian Government created her Professor—a title borne by no other woman in the country as such a gift. Among the honors conferred upon her on the occasion of her eightieth birthday was the degree of Doctor of Laws from the University of Kiel in her homeland. Her career is unique in the history of anthropology in Europe. A sketch of her life and activities, with portrait, appeared in *Globus* (1909, xcv, 213-215), from which some of the facts here recorded have been taken.

ALEXANDER F. CHAMBERLAIN.

Harlan I. Smith, of the department of anthropology of the American Museum of Natural History, has returned from a three months' trip along the northwest coast from Seattle to Skagway. He resumed his archeological reconnoissance of the coast, carrying it northward from Alert bay near the northern end of Vancouver island to a point on Chilkat river, about twenty-five miles above Haines. The following sites were located: an ancient village site about four miles above the mouth of Bellacoola river; shell-heaps in the vicinity of Old Metlahkatla and Prince Rupert, and both north and south of Port Simpson; a village site at the old eulachon fishing ground on the north side of Nass river a few miles above Kincolith; petroglyphs near Wrangel, and several village sites along Chilkat river, between Haines and Klukwan. More than three

hundred photographs of all phases of Indian life met with on the trip were taken, and photographic prints illustrating ethnological conditions were purchased wherever possible. Among the ethnological objects seen, the few not already represented in the museum collection were purchased. Two Bellacoola totem poles were obtained in order that they may be preserved as ethnological specimens and also to lend artistic effect to the Northwest Coast hall in the museum. Arrangements were made to secure other poles from various areas of the Northwest Coast culture for the same purpose. Mr Will S. Taylor, a mural artist, the other member of the expedition, made color studies of the Indians and their artificial and natural environments. These with the aid of the photographs are to be used for mural decorations in the Northwest Coast hall, with a view of illustrating the home country of the seven groups of natives, together with their characteristic occupations.

The Peabody Museum Expedition to South America, under the patronage of Louis J. de Milhau, has returned to Cambridge. The last three years have been spent in explorations on the headwaters of the Amazon, in the interior of Peru and Bolivia. The primary object of the expedition was the study of the native tribes of these little-known regions. A large amount of material was obtained with reference to the life of the people, their customs, ceremonies, language, beliefs, religions, medicines, treatment of diseases, folk-lore, occupations, and migrations. Physical characteristics were noted, and anthropometric measurements were made of a number of individuals in each tribe for the purpose of tracing their ethnical relations. Among the tribes visited were the Guarayos, Moxos, Macheyengas, Conebos, Cashibos, Shipibos, Jivaros, Aguayuras, Huitotes, Amahuacas, Piros, Mashgos, and Mabenaros, representatives of several different stocks. Collections were made of implements, weapons, utensils, ornaments, and articles of dress. Several cases have been received at the Museum, and others are on the way. Incidentally, collections were made in natural history; meteorological observations were taken, and topographical work was done. A map of the entire region, based on traverses and astronomical observations, was made for the Peruvian government. The field work of the expedition was done under the direction of Dr William Curtis Farabee, assisted by Dr E. F. Horr, Mr L. J. de Milhau, and Mr J. W. Hastings. A report on the expedition will be published by the Museum.

F. W. PUTNAM.

Proposed Universal Races Congress.—It is proposed to hold in London, about October 1910, a Universal Races Congress, which will treat of the relations of Western races and nations with Eastern and other races and nations. The official languages of the Congress are to be English, German, and French, but Oriental and other languages will not be rigidly excluded. The papers (which will be taken as read) are to appear, collected in a volume, about a month before the Congress opens, and among the contributors will be eminent representatives of diverse civilizations. Questions of the day of a strictly political character will enter only passingly into the discussions. Already embassies and interested associations, scholars, and politicians have promised support to the Congress, and all schools of thought will be invited to take part in the proceedings.

The object of the Congress will be to discuss the larger racial issues in the light of modern knowledge and the modern conscience, with a view to encourage good understanding, friendly feelings, and hearty co-operation among races and nations. Political issues of the hour will be subordinated to this comprehensive end, in the "belief that when once mutual respect is established, difficulties of every type will be sympathetically approached and readily solved.

The president of the proposed Congress is Professor Felix Adler of New York; the general secretary is Mr Gustav Spiller, 63 South Hill Park, Hampstead, England.

Professor Henry Montgomery, of Toronto University, spent the last field season in archeological exploration in the western provinces of Canada, continuing his investigations of the prairie mounds and other earthworks in Manitoba and Saskatchewan, in which he has been engaged for many years. During this exploration Professor Montgomery succeeded in finding a number of prehistoric objects of handiwork previously unknown to science, and he considers that he has obtained new and important evidence regarding the manner of the building of the ancient mounds. One of these mounds in Manitoba was so large and interesting that he and four assistants were eleven days occupied in its thorough excavation. In another locality he examined an artificial prehistoric wall of earth and stones, six feet high, fifteen feet thick, and half a mile long. The collections of skulls and other specimens made during the trip are for the new museum of the provincial university, of which Professor Montgomery is the curator.

Franz Boas, Professor of Anthropology in Columbia University, received on September 10, in connection with the celebration of the twentieth anniversary of the founding of Clark University, Worcester, Massachusetts, the degree of Doctor of Laws *honoris causa*. In conferring this degree on Professor Boas, President G. Stanley Hall used the following words: "Franz Boas, Professor of Anthropology in Columbia University, formerly a member of the faculty of Clark University, eminent alike as an original investigator and as an inspirer and organizer of research, recognized at home and abroad as the foremost representative of anthropological science in America." While in attendance at the celebration Dr Boas delivered a lecture on "Some Psychological Problems of Anthropology."

A. F. C.

THE DEPARTMENT OF ARCHEOLOGY, Phillips Academy, Andover, Mass., has announced the following course of lectures for the present season:

NOV. 4.	The Peoples of the Mediterranean.....	C. PEABODY.
NOV. 18.	The White Earth Indians.....	W. K. MOOREHEAD.
DEC. 2.	The Archeology of the Gulf States.....	C. PEABODY.
JAN. 13.	Coronado's Expedition.....	W. K. MOOREHEAD.
JAN. 27.	The Real Indian.....	DR CHARLES A. EASTMAN.
FEB. 10.	De Soto's Expedition.....	W. K. MOOREHEAD.
MAR. 3.	The Stone and Metal Ages in Great Britain and Northern France. Stonehenge and Carnac.....	C. PEABODY.
MAR. 17.	Glimpses of Insect Life.....	PROFESSOR E. S. MORSE.
MAR. 31.	The Archeology and Ethnology of Scandinavia.....	C. PEABODY.

DR PAUL VOUGA, of the Museum of Neuchâtel, Switzerland, has given the anthropological section of Peabody Museum of Yale University two cases of prehistoric implements in stone, iron, horn, and bronze. A collection of Indian antiquities has been received from G. W. Rittenour, '09. By an exchange there has been received from Stockholm, Sweden, an ethnographical collection made among the African tribes of the Congo. From the Egypt Exploration Fund has come a collection from the tombs at Mahasna and Abydos. It includes articles in ivory, vases, beads, ornaments, palettes, and pottery.

ACCORDING to the New York *Evening Post* a valuable archeological collection has recently been installed in the Museum at Vanderbilt University as the gift of General Gates P. Thruston of Nashville. The collection includes specimens from Tennessee, Missouri, Arkansas, and other Southern States, and Indian objects from Peru. The collection is

arranged in a room of University Hall to be known as the "General G. P. Thruston Room."

THE University of Utah archeological expedition that has been making excavations and studies in the San Juan country reports that it has obtained a large quantity of material and has been successful in its investigations. Professor Byron Cummings, dean of the school of arts and sciences, was in charge of the expedition. During the coming year he will pursue archeological studies in New York and in Europe.

It is proposed to celebrate the fortieth year of university teaching of Professor Enrico H. Giglioli, of Florence, by presenting him with an album containing the autograph signatures of zoölogists and anthropologists throughout the world. Those who wish to join in this testimonial are requested to send their autographs to Dr Enrico Balducci, Via Romana 19, Florence, Italy.

ALBERT N. GILBERTSON, M.A., instructor in psychology and anthropology at the University of Colorado, Boulder, has begun a course in anthropology this autumn. It is the first anthropology taught in that institution. During the last two years Mr Gilbertson has assisted Dr Albert Ernest Jenks in the University of Minnesota.

PROFESSOR GUSTAV RETZIUS gave on November 5 the annual Huxley lecture before the Royal Anthropological Institute in London. His subject was "The North European Race."

DR BRUNHUBER and Dr Schmitz, German explorers, are reported to have been murdered by the primitive tribes on the upper Salwin, in western Yun-nan.

PROFESSOR CESARE LOMBROSO, the eminent criminologist and author, died at Turin on October 18, of heart disease, at the age of seventy-three years.

DR WALTER LEHMANN, of Berlin, has been appointed curator in the Munich Ethnographical Museum.

DR EDWARD SAPIR has been appointed instructor in anthropology at the University of Pennsylvania.

American Anthropologist

NEW SERIES

VOL. 11

OCTOBER-DECEMBER, 1909

No. 4

THE INSCRIPTIONS OF NARANJO, NORTHERN GUATEMALA¹

By SYLVANUS G. MORLEY

THE ruins of Naranjo are situated in the northeastern part of the Republic of Guatemala, in the Department of Peten, not far from the boundary of British Honduras. The surrounding country, for the greater part, is extremely low, and supports a dense tropical vegetation which has destroyed most of the buildings of the city. This site was first brought to European notice through the efforts of The Peabody Museum of American Archaeology and Ethnology of Harvard University. In 1905 this institution sent an expedition to northern Guatemala in charge of Mr Teobert Maler, during the course of which the ruins of Naranjo were visited and mapped, and photographs made of the various monuments found there. It is upon these photographs taken by Mr Maler, together with his description and map of the site, that the following discussion of the inscriptions is based.²

The ancient city of Naranjo, in so far as it is concerned here, is composed of five courts (fig. 100)³ in a long east-and-west line, termi-

¹ Work done in partial fulfilment of the requirements for the degree of Doctor of Philosophy in the Department of Anthropology, Harvard University.

² The results of this expedition were published in the *Memoirs of The Peabody Museum of American Archaeology and Ethnology, Harvard University*, vol. IV, nos. 1 and 2, by Teobert Maler. No. 3, the concluding number of this volume, is in course of preparation.

³ This map is based on Mr Maler's sketch map of Naranjo, figured on p. 83 of his text in the *Memoir of The Peabody Museum* above mentioned. Certain details irrelevant to this article have been omitted; the courts have been lettered and the structures surrounding them numbered.

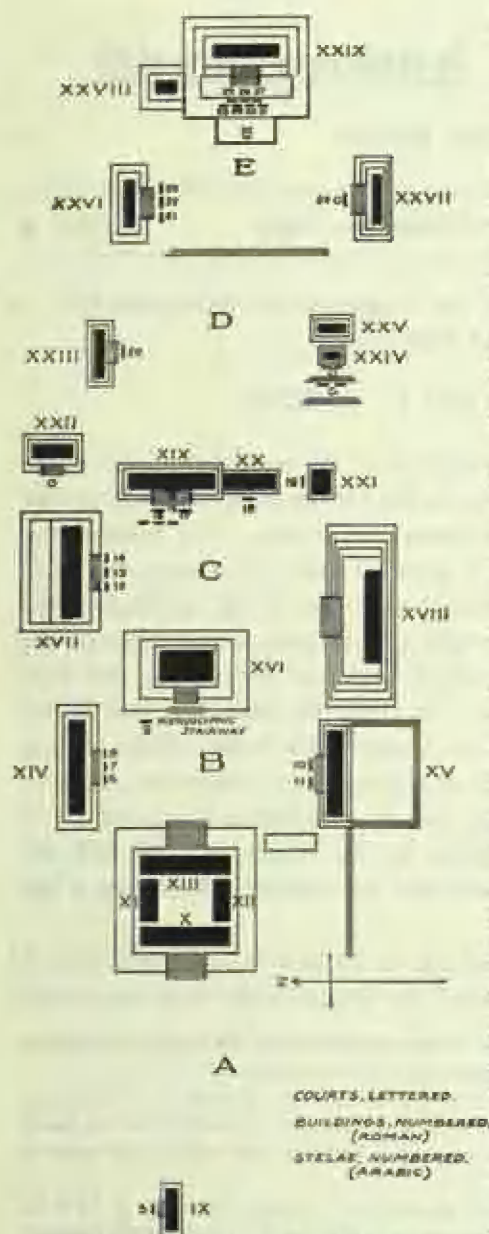


FIG. 100. — Map of part of Naranjo.

ture XVI. Eight of these stelæ, Stelæ 1, 4, 15, 16, 17, 18, 26, and

nated at the western end by a large, partially natural elevation called by Mr Maler "The Acropolis," and at the eastern end by a quarry from which the building material for the various structures of the city was taken. In addition to these courts and the structures which surround them, there are a number of smaller buildings, particularly to the north, which according to Mr Maler yielded nothing worthy of note.

The inscriptions of Naranjo, like those of most other cities of the Maya culture, treat of the passage of time from a common normal date, expressed as 4 Ahau 8 Cumhu in Maya chronology, to a series of much later dates, which probably are identical with events that transpired during the occupancy of the city and are consequently of an historical nature. These inscriptions are sculptured upon limestone stelæ, of which Mr Maler numbers thirty-two, and upon the rises of the steps leading to the lower platform of Structure XVI. Eight of these stelæ, Stelæ 1, 4, 15, 16, 17, 18, 26, and

27, were not photographed, as their sculptural relief in most cases had entirely scaled off. Of the remaining twenty-four, all of which are figured, two, Stelæ 3 and 9, are so badly weathered that it is impossible to study their glyphs; and two others, Stelæ 2 and 25, apparently present no dates. This reduces the number of stelæ which it has been possible to study, to twenty — Stelæ 5, 6, 7, 8, 10, 11, 12, 13, 14, 19, 20, 21, 22, 23, 24, 28, 29, 30, 31, and 32, which together with the Hieroglyphic Stairway leading to Structure XVI, constitute the inscriptions examined in the following paper.

A list of these, as deciphered by the writer, is given in the following table, concerning the use of which a brief word of explanation may not be out of place. In the first column the names of the different stelæ examined are set down, as Stela 5, Stela 6, etc. In the second column the positions of the inscriptions on the stelæ are described, i. e., whether they are upon the fronts, backs, or sides. The third column shows the numbers of days involved in the different calculations. The fourth column sets forth the exact day and month reached by the corresponding distance number in the preceding column. The letters and figures in the fifth column locate the positions of the glyphs in the inscriptions, which represent the distance-numbers, and dates of the third and fourth columns, letters indicating the columns of glyphs from left to right, and figures the numbers of the glyphs from top to bottom. The last column on the right refers to the number of the plate in vol. iv, no. 2, of *The Peabody Museum Memoirs*, where the stela in question is figured. Finally, material in the third and fourth columns enclosed in parentheses is not actually expressed in the inscriptions by definite glyphs, but is only implied in the calculations involved. Such omissions were doubtless supplied mentally by the more learned, at least, of the inhabitants of the city, much as we would supply the year 1909, in speaking of any date as "in the current year."

TABLE OF DECIPHERED INSCRIPTIONS

Stela 5	Front (9-17-13-2-8)	9	Lamat	1		
	Cumhu.				A1, A2.	pl. 21.
	Back plain.					
	Sides plain.					

- Stela 6 Front (9-17-1-0-0) 9 Ahau 13 Cumhu. A1, A2. pl. 21.
Back described as being too weathered to photograph.
Sides plain.
- Stela 7 Front (9-19-0-0-0) 9 Ahau 18 Mol. A1, B1. pl. 22.
Katun 19 declared in A2.
3-0 B4.
(9-19-0-3-0) 4 Ahau 18 Zac. A5, B5.
Back plain.
Sides plain.
- Stela 8 Front (9-18-13-0-0) 11 Ahau 13 Yax. A1, A2. pl. 23.
Back 9-18-10-0-0 10 Ahau 8 Zac. A1-A4, A9.
Sides plain.
- Stela 10 Front (9-17-0-2-12) 13 Eb 5 Zip. A1, B1. pl. 30.
1-19-15-8 A5, B6.
(9-19-0-0-0) 9 Ahau 18 Mol. A7, B7.
3-0 B9.
(9-19-0-3-0) 4 Ahau 18 Zac. A10.
Back plain.
Sides plain.
- Stela 11 Front (9-17-18-0-0) 6 Ahau 8 Kankin. A1. pl. 30.
Back described as being too weathered to photograph.
- Stela 12 Front too weathered to be deciphered.
Back (9-17-0-0-12) 12 Eb 5 Pop. A1, B1. pl. 31.
1-8-8-0 A5, A6.
(9-18-8-8-17) 8 Eb 5 Uo. A7.
4 B8.
(9-18-8-8-16) 12 Cib 9 Uo. A9.
2 B14.
(9-18-8-8-18) 1 Ezanab 11 Uo. B14, B15.
2-13 D4.
(9-18-8-11-11) 2 Chuen 4 Tzec. C5.
4-11 D7.
(9-18-8-16-2) 2 Ik 15 Chen. C8.
2-11 C11.
(9-18-9-0-13) 1 Ben 6 Ceh. D11.
8-15 D14, C15.

- (9-18-9-9-8) 7 Lamat 16 Uo. C15, D16.
 4-7 E3, F3.
 (9-18-9-13-15) 3 Men 3 Yaxkin. F3, E4.
 4-5 F11.
 (9-18-10-0-0) 10 Ahau 8 Zac. E12.
 Sides plain.
- Stela 13 Front (9-17-10-0-0) 12 Ahau 8 Pax. A1, A2. pl. 32.
 Back 9-17-10-0-0 12 Ahau 8 Pax. A1-A4, B9.
 10-13-10 D14, C15.
 (9-18-0-3-10) (8 Oc 3 Chen).
 Sides plain.
- Stela 14 Front (9-17-0-0-0) 13 Ahau 18 Cumhu. A1, A2. pl. 33.
 Back 9-17-13-4-3 5 Akbal 11 Pop. A1-A4, A9.
 19-15-9 C11, D11.
 The above distance number will not lead to the final date declared in B12.
 (9-18-0-0-0) 11 Ahau 18 Mac. B12.
 Sides plain.
- Stela 19 Front (9-17-10-0-0) 12 Ahau 8 Pax. A1, B1. pl. 34.
 Back too weathered to be deciphered.
 Sides plain.
- Stela 20 Front (9-13-2-8-16) 7 Cib 14 Yax. A1, A2. pl. 35.
 Back described as too weathered to photograph.
 Sides plain.
- Stela 21 Front (9-13-9-3-2) 8 Ik 5 Zip. A1, A2. pl. 35.
 Back described as too weathered to photograph.
 Sides plain.
- Stela 22 Front (9-13-10-0-0) 7 Ahau 3 Cumhu. A1, A2. pl. 36.
 Back plain.
 W. side 9-12-15-13-7 9 Manik 0 Kayab. A1-A4, A6.
 (3) hiatus apparently undeclared.
 (9-12-15-13-10) (12 Oc 3 Kayab).
 5-8 9 B8.

	(9-13-1-3-19) 5 Canac 2 Xul. 1-0	A9, B9. A12.	
	(9-13-1-4-19) 12 Cauac 2 Yaxkin. 4-6	B12, A13. B14.	
	(9-13-1-9-5) 7 Chicchan 8 Zac. 4-9	A15, B15. B16.	
	(9-13-1-13-14) 5 Ix 17 Muan. 1-2-16	A17, B17. B19, A20.	
	W. and E. sides (9-13-2-16-10) 5 Oc 8 Cumhu.	B20, A2.	
	E. side 1-3-3	A5, B5.	
	(9-13-4-1-13) 12 Ben 1 Zip. 1-3-0	A6, B6. B7.	
	(9-13-5-4-13) 3 Ben 16 Tzec. 1-0-4	A8, B8. A10, B10.	
	(9-13-6-4-17) 3 Cahan 15 Tzec. 5-7	A11, B11. A13.	
	(9-13-6-10-4) 6 Kan 2 Zac. 3-(0)-(0)	B13, A14. B17.	
	(9-13-9-10-4) (7 Kan 7 Yax). (1) hiatus apparently undeclared.		
	(9-13-9-10-5) (8 Chicchan 8 Yax). 7-15	B18.	
	(9-13-10-0-0) 7 Ahau 3 Cumhu.	A19, B19.	
Stela 23	Front too weathered to be deciphered. Back plain.		pl. 37.
	W. side 9-13-18-4-18 8 Ezanab 16 Uo. 4-17	A1-B5, B7. A17.	
	(9-13-18-9-15) 1 ¹ Men 13 Yaxkin.	B17, A18.	
	E. side 1-1-5 Add to A1-B5, B7.	A7, B7.	pl. 38.
	(9-13-19-6-3) 3 Akbal 16 Zip. 11-17	A8, B8. A16.	
	(9-14-0-0-0) 6 Ahau 13 Muan. Katun 14 declared in.	A17, B17. B18.	
Stela 24	Front (9-13-7-3-8) 9 Lamat 1 Zotz. Back plain.	A1, A2.	pl. 39.
	E. side 9-12-10-5-12 4 Eb 10 Yax. 5-7-15	A1-A4, A7. A11, B11.	

¹ The inscription incorrectly gives 2.

- (9-12-15-13-7) 9 Manik o Kayab. A12, B12.
 11-8-1 A18, B18.
- W. side (9-13-7-3-8) 9 Lamat 1 Zotz. A1, B1.
 2-14-12 B13, A14.
 (9-13-10-0-0) 7 Ahau 3 Cumhu. B14, A15.
- Stela 28 Front (9-12-19-0-0) 12 Ahau 13 Uo. A1, A2. pl. 40.
 Back plain.
 Sides plain.
- Stela 29 Front too weathered to be deciphered. pl. 41.
 Back 9-12-10-5-12 4 Eb 10 Yax. A1-A4, B7.
 3 A18.
 (9-12-10-5-15) 7 Men 13 Yax. B18, C1.
 5-7-12 C6, D6.
 (9-12-15-13-7) 9 Manik o Kayab. C7, D7.
 7-4-13 C10, D10.
 9-13-3-0-0) 9 Ahau 13 Pop. C11, D11.
 1-0-0-0 D14-D15.
 (9-14-3-0-0) 7 Ahau 18 Kankin. C16, D16.
 Sides plain.
- Stela 30 Front (9-14-3-0-0) 7 Ahau 18 Kankin. A1, A2. pl. 42.
 on the shaft held in the figure's right hand.
 (9-14-2-4-0) 13 Ahau 3 Uayeb. Top.
 (14-0) Bottom.
 (9-14-3-0-0) 7 Ahau 18 Kankin. Bottom.
 Back 9-14-3-0-0 7 Ahau 18 Kankin. A1, A4, B7.
 3-0-0 to be counted backward. C1, D1.
 (9-14-0-0-0) 6 Ahau 13 Muan. D2, C3.
 Katun 14 declared in. C4.
 1-3-19 C7, D7.
 (9-14-1-3-19) 3 Cauac 2 Pop. C8, D8.
 8-10 C12.
 (9-14-1-12-9) 4 Kan 12 Chen. D12, C13.
 Inscription continued in. F1.
 E2, F2.
 F3, E4.
 F4, E5.
 E8.

vals of quiet and decreased activity during which no monuments were erected. Each of these periods varied from forty to fifty years in length, and all five together show an occupancy of this site for more than two hundred and thirty years. The order of growth during this time and the sequence of the several courts of the city may be clearly traced upon the map in figure 1. Court E and probably Court D date from the middle period, and Courts C and B and probably Court A date from the final period of occupancy. For reasons which will appear below, it is impossible at present to determine what courts or structures may be referred to the first period.

The first period of the city's occupancy, or Old Naranjo, as it might be appropriately termed, is represented by a single inscription: the re-used lintel, which was found in the place of the left half of Slab 8 of the Hieroglyphic Stairway. In this position the lintel in question is obviously out of place. In shape, as well as in the character of its glyphs, it differs widely from the other inscribed slabs of the Hieroglyphic Stairway. Moreover, its original use seems to have been that of a lintel, the under surface of which was inscribed with eight or more rows of glyphs. In the re-shaping, necessary for its secondary use in the Hieroglyphic Stairway, the left-hand row of glyphs and half the right-hand row have been broken off (see pl. 29 of the Peabody Museum *Memoir* where this lintel is figured).

This fact of the re-use of the only inscription which dates from the earliest period of the city's occupancy, and its removal from the building where it originally stood, makes it difficult to say just what part of the city we should identify as Old Naranjo. It has been possible, by means of the inscriptions, to refer Courts A, B, C, D, and E to the middle and final periods with reasonable certainty; but in the absence of a single other inscription which may be assigned to the first period, and because of the uncertainty which surrounds the original position of the re-used lintel found in the Hieroglyphic Stairway, the writer has not attempted with the evidence at hand to identify any particular group of structures at this site as belonging to Old Naranjo.

Turning now to the inscription of this re-used lintel, we find that

the earliest date recorded upon it is 9-7-14-10-8 3 *Lamat* 16 *Uo*, which is carried forward by the distance number 2-5-7-12 to 9-10-0-0-0 1 *Ahau* 8 *Kayab*, the beginning day of *Katun* 10, declared by Glyph G3. The first of these two dates 9-7-14-10-8 3 *Lamat* 16 *Uo*, is one of the earliest in Maya chronology which it is possible to regard as contemporaneous from the modern point of view.¹ This date is twenty-four years later than *Stela* 9 at *Copan*, the earliest contemporaneous date at that city, and it is considerably earlier than any of the contemporaneous dates at *Yaxchilan*, *Piedras Negras*, *Seibal*, or *Quirigua*, and probably *Palenque*. The first period at *Naranjo* coincided with the first period at *Copan*, which was perhaps the oldest city of the Maya culture. This contemporaneity, indicated by the actual dates on the re-used lintel from *Naranjo* and the earliest monuments at *Copan*, *Stelæ* 2, 7, 9, and P, is further corroborated by resemblances in their glyphs. These resemblances consist chiefly in a greater attention to detail, particularly in the handling of the face elements, than was common in the later periods of the Maya civilization, and in a block-like treatment of the individual glyphs by which the parts were so manipulated as to accentuate the sharpness of corners, particularly noticeable in the handling of the bars denoting five.

It is interesting to note that this inscription occurs on the only inscribed lintel which Mr Maler found at *Naranjo*. At some other cities of the *Usamacinta* region, *Yaxchilan*, and *Piedras Negras*, for example, the lintel was the commonest medium for the presentation of inscriptions. This absence of the inscribed lintel at *Naranjo*, except during the earliest period, might indicate that the use of the lintel as a medium for the presentation of inscriptions was discontinued here early. The writer believes that systematic excavation of this site would probably uncover other inscribed lintels belonging

¹ Some Maya monuments bear dates so remote that they can refer only to mythological or traditional events. Such are the Initial Series of The Temples of the Cross, The Foliated Cross, and The Sun at *Palenque*, *Stela C* at *Quirigua*, and *Stela C* at *Copan*, which carry time back three thousand years before the historical period of the Maya civilization. Such dates are in no sense contemporaneous with the time in which they were sculptured, and doubtless referred to events which even the ancient Mayas regarded as mythological or traditional. "Contemporaneous," as used here, signifies that dates thus described were synchronous with the period of the erection of the monuments upon which they are sculptured.

to the later periods. Mr Maler's statements would seem to indicate the probability of this: "There were no rooms remaining in the badly ruined buildings of this city," and again, "not one façade nor a perfect interior had survived, owing to the terrible destruction of buildings by the rank tropical vegetation, which envelops everything." The lintel, always an element of weakness in Maya structures, would be the first thing to give way, and consequently in the general demolition which followed, most of the lintels would be deeply buried.

The final date on the inscribed lintel 1 Ahau 8 Kayab occurs once again at Naranjo, i. e., as the final date of Slab 6 of the Hieroglyphic Stairway. In this latter place, however, its position is not fixed in the Long Count, as was the case with the 1 Ahau 8 Kayab of the re-used lintel. This date recurs at intervals of 2-12-13-0 in the Long Count, either before or after 9-10-0-0-0. The question now arises, just what position in the Long Count shall we assign to the 1 Ahau 8 Kayab of Slab 6? The Hieroglyphic Stairway, of which this slab forms a part, is on the eastern side of Court B, which was the last court in the city to be built, as will appear later. This would indicate that the Hieroglyphic Stairway was of late date and consequently that the 1 Ahau 8 Kayab of Slab 6 was much later than the very early 1 Ahau 8 Kayab of the re-used lintel. On the other hand, the Initial Series of Slab 5 of the Hieroglyphic Stairway is 9-10-10-0-0 13 Ahau 18 Kankin, which also would appear to be an early date. It might even be referred to the first period, since it denotes a time but ten years later than the final date on the re-used lintel. But here another element interferes with such a conclusion. The Initial Series of the Hieroglyphic Stairway is, in all probability, not a contemporaneous date. It doubtless refers to a date which was important in the early history of the city, but which was anterior to the actual sculpturing of Slab 5 and the rest of the Hieroglyphic Stairway by a very long time. The following reasons have led the writer to this conclusion:

(1) We have seen that Court B may be clearly referred to the period of the final occupancy of the city, by means of the dates on the stelæ surrounding it. Since the Hieroglyphic Stairway is on the eastern side of this court, the probabilities are that it is also a late construction.

(2) Although the Initial Series itself is early, there are other distance numbers, which the writer has been unable to connect with it, on Slabs 4, 6, 7, 8, and 10, and probably others now lost, which would bring the count up to a much later time, perhaps the beginning of the final period.

(3) The character of the glyphs is late, the block-like outlines which appear in the glyphs of the re-used lintel having almost entirely disappeared.

The Initial Series on Slab 5, 9-10-10-0-0 13 Ahau 18 Kankin, therefore is probably only the remembrance of an earlier event in the history of the city, much as we might couple the year 1776 with 1909; but it was no more contemporaneous with the building of the Hieroglyphic Stairway on that account than the Declaration of Independence would be with the inauguration of President Taft. The recurrence of the date 1 Ahau 8 Kayab on Slab 6 may be due to the fact that it was the anniversary¹ or return of an earlier 1 Ahau 8 Kayab, perhaps that of the re-used lintel. The only time this date could have fallen in the final period at Naranjo (the period from which the Hieroglyphic Stairway probably dates) was 9-17-18-3-0, which value was the third return of 1 Ahau 8 Kayab after the 1 Ahau 8 Kayab of the re-used lintel. It may be safely assumed therefore, in spite of the early date recorded in the Initial Series and the repetition of a still earlier date on Slab 6, that the Hieroglyphic Stairway was of late construction.

After the first period of activity at Naranjo there followed an interval of quiet lasting from 9-10-0-0-0 or 9-10-10-0-0 to 9-12-10-0-0, during which no monuments apparently were erected. Without any knowledge of the facts it is useless to speculate as to what caused this depression. It might have been a weak ruler, a devastating war, a failure of crops, a famine or a pestilence. Whatever cause or causes contributed to this suspension of growth, however, one thing seems clear: no inscriptions fill the gap of forty or fifty years, which now followed and continued until the beginning of the second period of the city's history.

¹A Maya date can recur only after an interval of fifty-two years, expressed as 2-12-13-0 in Maya notation. Hence an anniversary as here used means an interval not of one year but fifty-two years.

The great achievement of Middle Naranjo was the building of Court E at the eastern end of the city. Twelve stelæ stand in front of three of the four structures surrounding this court (fig. 100), Stelæ 21, 22, and 23 in front of Structure XXVI on the north side, Stela 24 in front of Structure XXVII on the south side, and Stelæ 25, 26, 27, 28, 29, 30, 31, and 32 in front of Structure XXIX (the main temple) on the east side. Structure XXVIII, the small northern annex of Structure XXIX, which rises from the second terrace of that temple, has no stelæ in front of it.

The opening date of the second period is 9-12-10-5-12 4 Eb 10 Yax, which occurs twice: as the Initial Series on both Stelæ 24 and 29. After a distance number of 5-7-15 the date 9-12-15-13-7 9 Manik 0 Kayab is reached, which is not only recorded on both Stelæ 24 and 29 but appears as the Initial Series of Stela 22. This is an important date apparently, since it appears on all three sides of the court. There come next three dates on the fronts of Stelæ 28, 20, and 21: 9-12-19-0-0 12 Ahau 13 Uo, 9-13-2-8-16 7 Cib 14 Yax, and 9-13-9-3-2 8 Ik 5 Zip respectively. These dates are not fixed in the Long Count, and can recur at intervals of 2-12-13-0 either before or after the values given above. However, if 2-12-13-0 is subtracted from or added to any one of them, it gives values for these dates, which fall without the middle period by a considerable margin. Consequently, since all three of the above values fall between dates recorded on other stelæ in the same court, the positions of which are fixed absolutely in the Long Count, the writer believes the above are the values which were mentally supplied with these dates by the inhabitants of the city.

Stela 20, strictly speaking, is not in Court E but Court D. According to Mr. Maler, however, Court D appears to be more closely related to Court E than Court C: "To the east of the large longitudinal building (Structure XIX, Court C) with Stelæ 15-18 on its west side, another large plaza (Court D) has been formed, which by means of a filling of earth 2 to 5 meters in depth has been extended as far as the main temple (Structure XXIX, Court E) at the eastern end of the city." It would seem then, that Court D belongs to the period of Court E rather than Court C. Unfortunately the four stelæ in front of Structures XXIV and XXV are plain, and no evidence is forthcoming from them.

There is another date of the general period of Stelæ 20, 21, and 28, which must have been of some importance, since it was repeated twice on the same stela. This is 9-13-7-3-8 9 Lamat 1 Zotz, which appears as the only date on the front of Stela 24 and as an intermediate date on the back of the same stela, reached during the course of the calculation. The next date of importance seems to be 9-13-10-0-0 7 Ahau 3 Cumhu, also of the same period as Stelæ 20, 21, and 28. This is recorded in three places: as the final dates on Stelæ 22 and 24 and as the only date on the front of Stela 22. About eight years later the first date on the front of Stela 23 is reached: 9-13-18-4-18 8 Ezanab 16 Uo, which is carried forward to 9-14-0-0-0 6 Ahau 13 Muau, the beginning day of Katun 14, as the final date on the stela. This latter date is also recorded on the back of Stela 30, where the calculation was carried backward from 9-14-3-0-0 to 9-14-0-0-0 instead of forward, a very unusual proceeding. This new date 9-14-3-0-0 7 Ahau 18 Kankin is again of considerable importance, appearing three times: as the Initial Series on the back of Stela 30, as the only date on the front of the same stela, and as the final date on Stela 29. The closing date of this second period is the only date on the front of Stela 31: 9-14-10-0-0 5 Ahau 3 Mac. This reading, however, is open to some doubt, as the front of Stela 31 is badly weathered. It is a great misfortune also, that the last part of the inscription on the back of Stela 30 is so badly weathered; for it is not unlikely that the distance numbers in Glyphs E4 and E12 carry the count forward into Katun 15 or 16. If this be true, we would have in the inscription on the back of Stela 30 a partial bridging of the gap, which otherwise follows the close of the second period.

The sequence of the stelæ of Middle Naranjo, arranged according to their earliest and latest dates, is given below. The discussion of Stela 32 has been omitted here, as the dates on it indicate that it belongs to the final period of the city's occupancy.

Earliest date	Stela 24	Structure XXVII	Opening date.
" "	" 29	" XXIX	The same date.
" "	" 22	" XXVI	About five ¹ years later.

¹ The *turn* in Maya chronology is composed of three hundred and sixty days, that is about five and a quarter days shorter than the solar year. The differences given in this column are correct therefore only to the nearest year.

Only	date	Stela	28	Structure	XXIX	About three years later.
"	"	"	30	"	XXIII	About three years later.
Earliest	date	Stela	21	Structure	XXVI	About seven years later.
Final	"	"	22	"	XXVI	About one year later.
"	"	"	24	"	XXVII	The same date.
Earliest	"	"	23	"	XXVI	About eight years later.
Final	"	"	23	"	XXVI	About two years later.
Earliest	"	"	30	"	XXIX	The same date.
Final	"	"	29	"	XXIX	About three years later.
"	"	"	30	"	XXIX	The same date.
Only	"	"	31	"	XXIX	About seven years later.

From the above it appears that Middle Naranjo, so far as the stelæ are concerned, continued for about forty years. During this time, including the intermediate dates not given in the above table, dates were recorded at intervals ranging from three days to eight years, the longer intervals being considerably in the minority. Throughout the middle period events of sufficient importance to be recorded followed each other in quick succession. What events these dates mark is unknown, but their rapid succession shows that this period was of considerable importance in the history of the city.

Following the second period of activity, when the whole eastern end of the city was built, there came a gap from which no monuments date unless we accept the doubtful reading on the back of Stela 30, already mentioned.

The third and final period of the history of the city opens with the beginning of Katun 17. During this last period Courts B and C and probably Court A were built. Courts B and C were both begun about the same time, though work on Court C ceased about ten years before the final dates in Court B. Court A only has one date which will be discussed presently. Court B (fig. 100) contains six stelæ: Stelæ 6, 7, 8, 9, 10, and 11, and the Hieroglyphic Stairway; and Court C contains eight stelæ: Stelæ 12, 13, 14, 15, 16, 17, 18, and 19, of which four, Stelæ 15, 16, 17, and 18, were not photographed by Mr Maler.

¹ This is the latest date on Stela 30 that the writer was able to find. It is possible, however, as is pointed out above, that the distance numbers in E4 and E12 may carry the count forward to a much later time.

The earliest date of New Naranjo, as we might call the last period of the city's occupancy, is 9-17-0-0-0 13 Ahau 18 Cumhu, found on the front of Stela 14 in Court C. This is very closely followed by the earliest date on Stela 12, also in Court C, which is only twelve days later: 9-17-0-0-12 12 Eb 5 Pop. Forty days later comes the first date in Court B 9-17-0-2-12 13 Eb 5 Zip found on Stela 10, and in less than a year follows the second date in Court B 9-17-1-0-0 9 Ahau 13 Cumhu found on Stela 6. The next and probably one of the most important dates of New Naranjo, since it is recorded three times, is 9-17-10-0-0 12 Ahau 8 Pax. This appears as the only date on the front of Stela 13; as the Initial Series on the back of the same stela, and as the only date on the front of Stela 19. Both of these stelæ are in Court C.

There follows next, on Stela 5, the only date recorded in Court A. This is quite clearly 9 Lamat 1 Cumhu, though its position in the Long Count is not stated. This date may occur in 9-17-13-2-8, and at intervals of 2-12-13-0 before and after. The writer, however, believes the value of 9-17-13-2-8 to be the one intended here, for the following reasons:

(1) The value of 9-17-13-2-8 is within thirty-five days of the Initial Series on the back of Stela 14, 9-17-13-4-3 5 Akbal 11 Pop.

(2) The next earlier value for 9 Lamat 1 Cumhu would be 9-15-0-7-8, and the next higher value 10-0-5-15-8. Both of these lie beyond the extreme dates of the final period, and for this reason have been rejected.

The date following that on Stela 5, as mentioned above, is the Initial Series of Stela 14 in Court C, 9-17-13-4-3 5 Akbal 11 Pop. The next date is in Court B again on Stela 11 9-17-18-0-0 6 Ahau 8 Kankin. The closing dates on Stelæ 13 and 14, both in Court C, follow in 9-18-0-0-0 11 Ahau 18 Mac, and 9-18-0-3-10 8 Oc 3 Chen respectively. The next date of importance is 9-18-10-0-0 10 Ahau 8 Zac, which is recorded twice: as the Initial Series and earliest date on Stela 8 in Court B, and as the closing date of Stela 12 in Court C. In this latter place apparently it marks the close of building operations in Court C, since no later

dates are there recorded. There follow next two dates each of which occur twice: 9-19-0-0-0 9 Ahau 18 Mol, which is found as an intermediate date on the front of Stela 10, and also as the earliest date on the front of Stela 7; and 9-19-0-3-0 4 Ahau 18 Zac, which occurs as the final date on both the above stelæ.

Stela 32, though probably the latest stela in the city, is capable of two readings, due to the heavy shadow cast upon its final date in the photograph. If the numerical coefficient in H9 could be surely identified as 8, then the final date would be 9-19-10-0-0 8 Ahau 8 Xul. There is, however, a possibility that this coefficient may be 7¹, and if such were the case the final date becomes 9-12-4-0-0 7 Ahau 8 Xul. In support of this last reading it may be said that this stela stands in a court (Court E) the earliest date of which is only six years later than 9-12-4-0-0, and that consequently this reading is more likely to be correct than one of 9-19-10-0-0, which is a century later than the latest date recorded in Court E. While admitting these points, the writer nevertheless believes that it will be possible to show that the later and not the earlier date was the one intended here. Admitting that the coefficient of the final date in H9 looks as much like a 7 as an 8, we are obliged to seek elsewhere for our evidence. In B6 G3 there is a distance number leading from 1 Imix 19 Mol declared in A5 to 12 or 13 Ahau 8 Zip declared in H3 G4. Now if the final date in H9 is 9-12-4-0-0 7 Ahau 8 Xul, then H3 G4 becomes 9-12-3-15-0 12 Ahau 8 Zip, and A5 9-11-5-16-1 1 Imix 19 Mol. Accepting these values as the correct ones for the moment, let us see if the difference between 9-12-3-15-0 and 9-11-5-16-1 agrees with the distance-number expressed in B6 G3, which it must do if we have assigned the correct value to the final date. The difference between these two numbers expressed in Maya notation is 17-16-19. It is quite clear in plate 44 of vol. IV, no. 2, of *The Peabody Museum Memoirs*, where the photograph of Stela 32 appears, that the coefficient of B6 is 19, and that the coefficient of the first half

¹ The coefficient of H9 is composed of a horizontal bar (5) with three dots above it. If all three of these are of equal size and design, the number would be 8 quite clearly. But there is the possibility that the middle dot may be larger than either of the end ones. In this case it would serve an ornamental function only, and the number would be 7. A mold of this glyph would solve this question beyond doubt.

of G₃ may be 16. But despite the heavy shadow here, it is very plain that the coefficient of the last half of G₃ is not 17, nor in fact can it represent any number higher than 5, i. e., a single bar in Maya notation.

Since 9-12-4-0-0 7 Ahau 8 Xul will not satisfy the necessary conditions in G₃, let us try the other value for the final date suggested above by the writer. The use of 9-19-10-0-0 8 Ahau 8 Xul as the final date in H₉ presupposes a value of 9-19-9-15-0 13 Ahau 8 Zip in H₃ G₄ and 9-19-4-1-1 for 1 Imix 19 Mol in A₅. The difference between the last two of these is 5-13-19, which must appear in B₆ G₃ as before if this value for the final date be the correct one. Again, the 19 appears in B₆. But this time the coefficient of the first half of G₃ appears much more likely to be 13 than 16, i. e., two bars and three dots rather than three bars and one dot. Finally the coefficient of the last half of G₃ appears to be very much like the single bar needed here to make the required 5. For this reason, the writer has accepted as the final date of Stela 32: 9-19-10-0-0 8 Ahau 8 Xul.

That the last stela in the city should be set up in Court E, a Middle Naranjo construction, need not invalidate this latter reading. Even though building operations had ceased in Court E before the final period of the city's history, it is hardly to be supposed that in consequence this court was abandoned and that it was not in use during the final period, which we have called New Naranjo. Indeed such an interpretation of the facts would seem unreasonable. Structures the world over have continued in use centuries after their builders were forgotten, and in the case of Court E at Naranjo, only fifty years elapsed after the close of the middle period, before there was a return of building activity. A stela may very well have been set up in Court E during the final period of the occupancy of the city. It is noticeable in this connection (fig. 100) that Stela 32 does not stand in the same close relation to Structure XXIX as do the other stelæ associated with that building, all of which are on the second platform of the substructure. Stela 32, on the other hand, stands by itself on the first terrace. Without pressing the point, it seems not improbable that Stela 32 may date from a considerably later period than the other stelæ associated with Structure XXIX.

The sequence of the stelæ of New Naranjo, arranged according to their earliest and latest dates, is given below. No dates are given for the Hieroglyphic Stairway, since the writer has been unable to connect the several distance numbers recorded there with the Initial Series; and, as pointed out elsewhere, the early date of this Initial Series was probably not contemporaneous with the building of Court B and the Hieroglyphic Stairway.

Earliest date	Stela 14	Court C	Structure XVII	Opening date.
" "	" 12	" "	" XVII	Twelve days later.
" "	" 10	" B	" XV	Forty days later.
Only	" 6	" "	" XIV	About a year later.
Earliest	" 13	" C	" XVII	About nine years later.
Only	" 19	" "	" XXI	The same date.
" "	" 5	" A	" IX	About three years later.
" "	" 11	" B	" XV	About five years later.
Final	" 14	" C	" XVII	About three years later.
" "	" 13	" "	" XVII	The same date.
Earliest	" 8	" B	" XIV	About ten years later.
Final	" 12	" C	" XVII	The same date.
" "	" 8	" B	" XIV	About three years later.
Earliest	" 7	" "	" XIV	About seven years later.
Final	" 7	" "	" XIV	Sixty days later.
" "	" 10	" "	" XV	The same date.
Earliest	" 32	" E	" XXIX	About three years later.
Final	" 32	" "	" XXIX	About seven years later.

It would seem from the foregoing that the final period at Naranjo lasted for about fifty years. During this time, including the intermediate dates not given above, dates were recorded at intervals ranging from one day to ten years, the longer intervals, as was the case in the middle period, being considerably in the minority.

Having reached the date of 9-19-10-0-0 8 Ahau 8 Xul as the close of activity at Naranjo, let us see where this city stood at that time in relation to the other contemporaneous sites of the Maya culture. We find that Naranjo had seen the fall of almost all the great cities of the Usamacinta and adjoining regions, Quirigua, Yaxchilan, Piedras Negras, and perhaps Palenque. Two only survive her, Copan for ten years and Seibal for thirty.

The beginning of the Tenth Cycle marked the dawn of a new era for the Maya civilization. The star of empire was moving northward to the newly-discovered Yucatan, and in the dark days which followed for the southern cities, Copan, Quirigua, Palenque, Yaxchilan, Piedras Negras, Seibal, Tikal, Naranjo, and scores of others were abandoned and their very names forgotten. As it was one of the first to come up, so was Naranjo one of the last to go down, in the final eclipse which, with the coming of the Tenth Cycle, fell so swiftly upon the great cities of the south.

SCHOOL OF AMERICAN ARCHAEOLOGY
SANTA FE, NEW MEXICO

NOTES ON THE PIRO LANGUAGE

By JOHN P. HARRINGTON

THE Piro Indians are and have been since known to history the most southerly of the sedentary Pueblo tribes. They were the first Pueblo people encountered by the early Spanish explorers when they journeyed up the Rio Grande. Indeed archeology seems to indicate that the southern limit of the architecture typical of the Pueblo area is coincident with the southern extent of the country occupied by the Piro when first discovered by the whites in the sixteenth century.¹

This former Piro homeland lay in what is now the central part of New Mexico. In more than twenty villages, these Indians held the valley of the Rio Grande from the vicinity of the present La Joya to that of the present San Marcial, a distance of more than forty miles, and also a great arid area east of the river in the region which is known because of its alkali lakes as Las Salinas. As early Piro villages whose names have become widely known may be mentioned Senecú, Socorro, and Gran Quivira.

The neighbors of the Piro on the north were the ancestors of the present Sandia and Isleta Indians. This tribe, and more especially its language, are sometimes designated by a name, obscure in origin, which is variously spelled Tigua, Tiwa, but pronounced Tiwa. The application of the name Tiwa was extended at an early date to the Taos and Picuris Indians of northern New Mexico, who speak a slightly variant form of the language of Sandia and Isleta.² These northern neighbors were no doubt a people very similar in

¹ Bandelier, *Final Report, Papers of the Archaeological Institute of America*, Am. Ser., IV, Cambridge, 1892, pt. II, p. 252.

² Alonso Benavides is the first writer who observes that the Indians of Taos and Picuris are closely related linguistically to the Tiwa. In his *Memorial* (Madrid, 1630, p. 30) he notes concerning the Picuris: "And although these Indians are of Tions [i. e., Tiwa] tribe, since they are so widely separated from them, they are entirely independent of them." Of the Taos he says, "of the same tribe as the preceding, but the language differs somewhat."

every way to the Piro themselves. On the west, south, and east, and to some extent between the Piro villages, roved hostile Apache. More remote southern and eastern neighbors of the Piro were the semi-sedentary Jumanos, Mansos, and Sumas, of undetermined affinities.

At the time of the great Pueblo rebellion the Piro were already greatly decreased in number, probably largely as a result of increasingly violent inroads of the Apache. They accompanied the retreating governor of New Mexico, Otermin, as far south as El Paso del Norte. At a spot seven miles below the present city of El Paso, on the southwestern bank of the Rio Grande, a new Piro village of Senecú was established, and a second Socorro was founded seven miles farther down the river on the opposite bank. At and about these two places are still to be found at the present day forty or more individuals who call themselves Piro and continue the governmental organization of the Piro tribe, although they have adopted the language and culture of the Mexicans.

The two Piro villages near El Paso were established in 1680. In the following year a large number of Indians from Isleta pueblo were settled on the bank of the Rio Grande two miles above Socorro, and their village became known as Isleta or Isleta del Sur. These southern Isleta are at present somewhat less thoroughly Mexicanized than are the descendants of the Piro.

Piro history suggests that we have to deal with a tribe distinct from all others. We must therefore not be surprised to discover, in linguistic groupings which are based to a considerable extent on other than linguistic data, that Piro is considered a distinct language. It is interesting to examine the history of the classification of Piro.

Gregg writes, 1844: "In ancient times the several pueblos formed four distinct nations, called the Piro, Tegua, Queres, and Tagnos or Tanos, speaking as many different dialects or languages."¹ Here the Tanos (Tagnos) are separated from the Tewa (Tegua), although they spoke the same language, and the Keres (Queres) are introduced among tribes speaking languages of the Tanoan family.

Lane, 1854, groups together as belonging to a single linguistic

¹ Gregg, *Commerce of the Prairies*, Philad

1844, vol. 1, p. 269.

stock the idioms of Taos, Vicuris (i. e., Picuris), Zesuqua (i. e., Tesuque), Sandia, Ystete (i. e., Isleta), and of "two pueblos near El Paso, Texas." This family he terms E-nagh-magh.¹ The tongues which he enumerates are all of the stock which has since Powell been known as the Tanoan family. The two pueblos near El Paso are probably Senecú and Isleta del Sur. They are however identified by Keane with "Lentis" and "Socorro."²

Pimentel, 1862-65, classifies the Pueblo languages as follows: "I. El Keres, Queres, Xeres, Quera dividido en tres dialectos Kiwomi ó Kioame, Cochitemi ó Quime, Acoma ó Acuco. II. El Tesuque ó Tegua, Tehua, Tigua, Tiguex. III. El Taos, Tahos, Thaos ó Piro, Pira, Tom-pira hablado por los Taos, Piros, Sumas, Pecuries ó Picoris. IV. El Jemez, Gemez, Xemez ó Tano, Tagno, Tahano correspondiente á los Jemez, Tanos y Pecos. V. El Zuñi, Zoñi ó Cibola."³ Pimentel's groups II, III and IV include the languages of the Tanoan family. These three groups are however not recognized as resembling one another more closely than they do I, the Keres stock, and V, the Zuñian stock. In group II the Tewa and Tiwa are confused and classed together. Group III is very interesting, for it connects the Taos-Picuris, Piro, and Suma languages. In group IV the Tano, identical with the Tewa, is incorrectly grouped with the Jemez-Pecos language.

Powell, 1880, distinguishes Zuñian, Keresan, and Tanoan⁴ speech and gives the names to these three linguistic stocks. The divisions of the Tanoan stock are grouped by him thus: "1, Taño (Isleta, Isleta near El Paso, Sandia). 2, Taos (Taos, Picuni). 3, Jemes (Jemes). 4, Tewa or Tehua (San Ildefonso, San Juan, Pojoaque, Nambe, Tesuque, Santa Clara, and one Moki Pueblo). 5, Piro."⁵ Powell makes a very noticeable mistake in separating the Taos-Picuris from the Isleta-Sandia language and in calling the latter "Taño."

¹ Lane, 1854, in Schoolcraft, *Indian Tribes*, Philadelphia, 1855, vol. v, p. 689.

² See Powell, *Indian Linguistic Families of America North of Mexico*, Washington, 1891, p. 121.

³ Pimentel, *Lenguas Indígenas de México*, Mexico, 1862-65, p. 92.

⁴ Powell incorrectly writes Taño, Tañoan. The name in Mexican is Tano; in Tewa, T'ana. I follow Hodge in omitting the tilde from the word.

⁵ Powell in *American Naturalist*, Aug., 1880.

Bancroft, 1883, in his discussion of the Pueblo languages does not mention Piro; but he says: "In Taos, Picoris, Zandia, and Isleta, there is the Picoris language."¹ In chapter VII however he speaks of the "Hualahuise, Julime, Piro, Suma, and Chinarra" as north Mexican languages and reprints a Piro version of the Lord's Prayer.²

Bandelier, 1892, says of the Tiwa and Piro: "The language spoken by these two tribes is related to the idioms of the Tehuas, consequently also of the Tanos, Taos, Picuris, and Jemez. The Tigua language is virtually the same as that spoken at Taos and Picuris, the difference not being greater than between the dialects of southern Germany and those of some of the northern cantons of Switzerland . . . The Piros as far as I know have no kindred in the northern parts of the Southwest; except in as far as their idiom is shown to be related to those of the tribes specified above . . . Although the Piros and Tiguas were not able to understand each other's speech, they were near neighbors on the Rio Grande."³

Hodge writes, 1896: "The Pueblo tribes of New Mexico and Arizona embody four linguistic stocks — Tanoan, Keresan, Zuni, and Shoshonean. The Tanoan stock is, or rather was, composed of five dialectal divisions — Tano, Tewa, Tiwa, Jemez, and Piro. . . . The Tiwa, called by the Spaniards Tigua, live in the pueblos of Taos, Picuris, Sandia and Isleta. . . . The Piros, now almost completely Mexicanized, are found, intermixed with some Tiwa, at the villages of Senecú and Isleta del Sur, below El Paso on the Rio Grande in Texas and Chihuahua."⁴

The Tano should be omitted, being included in the Tewa.

Concerning the Piro there seems to be a difference of opinion. Lane, Pimentel, Powell, Bandelier, and Hodge agree in grouping Piro with the Tanoan languages. They differ when a closer or more remote connection with certain languages within the Tanoan family is attempted. Pimentel classes the Piro with the Taos, Pi-

¹ Bancroft, *Native Races*, San Francisco, 1883, vol. III, p. 681.

² *Ibid.*, p. 714. The Lord's Prayer is reprinted from the *Colección Polidivina que contiene la Oración Dominical*, Mexico, 1860, p. 36, and is reproduced in the introduction to the Bartlett vocabulary of Piro in the last number of this journal, p. 429.

³ Bandelier, *Final Report*, Cambridge, 1892, pt. II, pp. 218 and 219.

⁴ Hodge, *Pueblo Indian Clans*, *American Anthropologist*, Oct., 1896, p. 345.

curis, and Suma. Powell, Bandelier, and Hodge consider Piro to be a language or division of the Tanoan family distinct from all others.

From what sources are these classifications derived, we may rightly ask? What sources are available for a study of the Piro language? The sources of our knowledge of the language itself are four in number.

1. A few place names. The orthography is Spanish. Those recorded by Bandelier¹ are: Abo (= Abbo), Atri-puy, Genobey (= Xenopué?), Pataotrey, (= Patasce?), Pil-abó (= Pil-o Pué), Qual-a-cú, Quelotetrey (= Cuéloce?), Tabirá (= Gran Quivira), Ten-abó, Tey-pam-á, Trenaquel, Zen-ecú (= Senecú = Tzen-o-cué).

2. A Piro version of the Lord's Prayer. The orthography is Spanish. The collector is not known. It was first printed in the *Colección Polidíomica Mexicana que contiene la Oración Dominical*, Mexico, 1860, p. 36. It is reprinted with twelve mistakes by Bancroft² and correctly in the *American Anthropologist*, July-Sept., 1909, p. 429.

3. A brief vocabulary recorded by Mr John Russell Bartlett in 1850, preserved in the archives of the Bureau of American Ethnology. It is published, together with a sketch of Piro history by Mr F. W. Hodge, and some notes on the Piro vocabulary by Bartlett, in the *American Anthropologist*, Oct., 1909, p. 426.

4. A brief vocabulary obtained by Mr James Mooney in 1897. This is also in possession of the Bureau of American Ethnology and has not yet been published.

This material, wretched in quality as it is meager in scope, not only is, but may remain, our only record of Piro speech. Bartlett in 1850 had apparently no difficulty in obtaining a vocabulary from the Piro. He employed two Indians residing at Senecú named Hieronymo Peraza and Marcos Alejo. Mr Mooney obtained his Piro material from an old woman said to be the last survivor who had any knowledge of the native tongue.³ Dr Fewkes states after

¹ Bandelier, *Final Report*, Cambridge, 1892, chap. vi.

² Bancroft, *Native Races*, San Francisco, 1883, vol. III, p. 714.

³ According to information furnished by Mr F. W. Hodge.

visiting the Piro in 1901: "The Piro's language, as a means of conversation, has practically disappeared, as no one at Senecú or Socorro now converses in it; but there are still remembered many words which, if recorded, would form a larger vocabulary than any known to exist."¹ Mr Hodge writes of the Piro in 1909: "They are 'Mexicans' to all intents and purposes, and perhaps only one or two have any remembrance of their native language."²

Concerning the extinctness of this language, as concerning its affinities, our authorities differ.

In August of this year the writer of the present paper determined to visit the Piro. His stay among them was brief and the results were unsatisfactory. A few details will, however, be of interest.

Senecú may be reached from El Paso after a walk of two hours. The pleasant road leads through Juarez, which has the distinction of being the Mexican town most visited by people from the United States, and further, between the small farms which dot the broad, low bank of the river, until it passes the old church of Senecú. If it were not for the church one would hardly know when Senecú is reached, for the river bank is not more thickly populated here than all along the way.

The first person interviewed concerning the Piro at Senecú was a kindly disposed old man named Marcos Pedraza. He answered my first inquiry in jest, saying that I must mean "perros," dogs, since there were neither Piro's nor Indians at Senecú. Later he admitted that he was himself a Piro. He and his wife received me with Mexican hospitality and answered my questions with a frankness which contrasted sharply with the reticence of the Pueblo Indian. Neither he nor his wife could remember a word of the Piro language, although they tried hard and were offered every inducement to do so. They told me that they did not dare to fabricate words since I would ask other Indians (they were not thinking of Piro Indians when they said this!) and discover their lies.

¹ Fewkes, The Pueblo Settlements near El Paso, Texas, *American Anthropologist*, Jan., 1902, p. 74.

² Hodge, The Language of the Piro's, by John Russell Bartlett, Introduction, *American Anthropologist*, July-Sept., 1909, p. 428.

Marcos Pedraza said that his father, now dead, could speak Piro, but never did so, because the language was of no use. In former years he had heard his father and other people speak in Indian, but he did not understand them. He declared emphatically that he and the rest of the Indians of Senecú know no language but Spanish. He assured me again and again that I would be unable to discover any one who knows Piro. The old people who knew the language had all gone to the skies. Those last surviving had died ten or fifteen years before. One of these was Marcos Alejo—the name of one of Bartlett's informants! My informant did not like to talk about these people of former years. In a second talk with him, held in his chile field, he told me that there were Isleta people at Isleta across the river who still knew Indian and advised me to go to Mariano Colminero, "el cacique de los Tiguas." When I objected that the Isleta language is different from Piro, he said, and I quote his very words, "No, no, es cuasi la misma idioma"—"No, no, it is as it were the same language." He said that the Isleta and Piro people were old friends and allies and that they had no difficulty in talking together in Indian, the two languages being very much alike.¹ My informant pronounced the name Senecú, Sa-ne-kú,² and Piro was spoken as the Mexicans speak it with a strongly trilled *r*. I could obtain no satisfactory information from him about the Suma. He thinks that there are about forty people at Senecú, none of whom are "more Indian" than he is. He knows a couple of families of Piro settled about Isleta and Socorro on the Texas side of the river; also two or three Piros living at various places in Chihuahua south of Senecú, a Piro man named Vicente Pais who has a ranch at San José, Texas, and two other men of the tribe, Dolores Alejo and Alexandro Rodela, living at Las Cruces, New Mexico. He stated in a convincing manner that none of these men know the Piro language.

I visited altogether six Piro homes at Senecú, and had pointed out to me the farm of the married daughter of Hieronymo Pedraza,

¹ This statement, whatever importance may be attached to it, directly contradicts Bandelier, who states that "the Piros and Tiguas were not able to understand each other's speech." See the quotation from Bandelier, p. 566, of this article.

² It was noticed that a Mexican at El Paso also pronounced the name thus.

Bartlett's informant, who died twenty-five years ago. None of the people could assist me at all in my quest for Piro words, although they were all friendly. A second old man, named Caspillo, confirmed Marcos Pedraza's statements. This man was of the opinion that I might find people on the other side of the river who could give me Piro words. Piro was, he said, as compared with Tiwa, "poco diferente," — a little different, — which after all is a rather meaningless phrase.

To conclusively determine whether individuals exist who retain a knowledge of Piro may prove to be a task of weeks or months. It can hardly be urged strongly enough that a thorough and systematic search, such as the writer did not have time to make, be conducted without delay.¹

At Isleta del Sur I secured the services of Mariano Colminero whom the Piro had recommended to me. I found him to be a man of unusual intelligence. He had previously worked with an ethnologist whom I judge from his description to be Dr Fewkes. This man and a number of other old people can converse in the Isleta language. He said that the Piro idiom was different from that of Isleta, but only in minor details, many of the words being the same. Whether Piro is still spoken he does not know. He thought that Vicente Pais, who lives near Isleta, might know Piro. An attempt to find this man was unsuccessful.

With the assistance of Mariano and of an aged neighbor of his named Ponciano Luin² I recorded the Isleta del Sur equivalents of the words contained in Bartlett's Piro vocabulary. No reference was made to the Piro words while obtaining this vocabulary.

Later I discovered that the Tiwa words which I had obtained at Isleta del Sur had in the majority of cases stems identical with those of Bartlett's Piro. At once I determined to prepare corresponding vocabularies in the Tiwa of Isleta del Norte and of Taos, and in the Jemez and Tewa languages, and thus to compare and analyze the Piro.

¹ Dr Fewkes informs me that he is of the opinion that such a search might prove successful. After his visit to the Piro in 1901 he heard of an old man at Socorro who still spoke Piro.

² Perhaps a mistake for Ponciano Olgin, a name mentioned by Fewkes, *The Pueblo Settlements Near El Paso, Texas*, *American Anthropologist*, Jan., 1902, p. 62.

The day after obtaining the Isleta del Sur vocabulary and while its sounds were still remembered I secured at Albuquerque words of corresponding meaning from an Isleta woman named Maria Chotal. The slight phonetic and lexic differences between the Isleta dialect and that of Isleta del Sur are what one would expect, since the separation occurred more than two centuries ago. On the whole, I imagine that the southern Isleta tongue is the more conservative of the two. The Isleta vocabulary has been compared with Gatschet's Isleta text¹ and has been revised by Dr H. J. Spinden, to whom I am indebted for this assistance. The Taos vocabulary was recorded from José Lopez and Santiago Mirabal; the Jemez informants were Pedro Coloqui, Cristino Yepa, and José M. Toledo; the San Ildefonso Tewa words were obtained from Ignacio Aguilar. These vocabularies are herewith presented.

The alphabet used in the vocabularies is with modifications that employed by Dr J. R. Swanton of the Bureau of American Ethnology. Modifications are:

e is a rapidly uttered, impure *e*.

indicates a very open vowel.

^h denotes aspiration of the preceding sound.

^g signifies closure of the glottis.

^h is a very slight *h*.

fw resembles the English *wh*.

v is bilabial *v*.

ð, d, g approximate *v, r, y*.

m, n are *m, n* without complete closure.

^ˈ indicates stress accent.

^ˋ indicates a falling or lowering pitch accent.

^ˊ indicates that the pitch of the preceding vowel is lower than the sentence pitch.

^ˋ indicates that the pitch of the preceding vowel is higher than sentence pitch.

Abbreviations used are: *I. S.*, Isleta del Sur; *I.*, Isleta; *T.*, Taos; *J.*, Jemez; *S. I.*, San Ildefonso; *O.* Oración Dominical.

¹ Gatschet, A Mythic Tale of the Isleta Indians, New Mexico, *Proceedings of the American Philosophical Society*, July-Dec., 1891, pp. 208-218.

Comparative Vocabulary of the Tanoan Languages

English	Piro (Barilest) (^{1st} Piro "')	Isala del Sur (^{1st} Twa "')	Isala (^{1st} Twa "')	Tao (^{1st} Twa "')	James (^{1st} James "')	San Ildefonso (^{1st} Twa "')
1. Old man	o-ye		sonide		relā	se'aydo
2. Old woman		sonide	sonide	sonenzā	co'	se'n
			liuade		owā	kwiyo
Woman in prime			liuade			
3. Youth	su-n'é	tiadaide	liuade	liena	tyo	kwi
Boy			luwade	u'liana	akiz	enu
Little boy	at-sam-é		luwade	uyounā	akiz	enuke
4. Maiden		uulde	uulde	uunā	k'w	enuke
Girl	yool-é		'calide	kwōlenā	u'pekiz	anyu
Little girl			'caude	up'ityuunā	u'pekiz	anyuke
5. Infant	yo-wa-né	uulde	upluade	uunā	k'w	anyuke
		uulde	uulde	uunā	k'w	ep'i
				up'ilenā	k'wec	ep'ie
				up'liunā	k'w-wila	
6. Father, my	el em-ta-ta-é	i'nakaiwas	i'nakai	a'itamenā	n'uto'e	na'bi-tada
Father !	quilatac (O)		i'natatay			
7. Mother, my	et-em-kia-é	i'nakawae	i'nakay	a'ntanā	tata	tada
			i'namamacy		n'uzec	na'bi-yiya
Mother !						
8. Husband, my	el-a-man-tal-a-é	i'nsaane	i'nsbey	a'ntolinā	'iya	yiya
					n'up'ie	na'bi-ec'n
9. Wife, my	el-a-m'sun-é	i'anliue	i'niucy	a'nticnā	n'uboe	na'bi-t'owa
10. Son, my	el-a-m'eu-i-é	i'nuwae	i'quey	a'nuwai	n'uktrak'ac	na'bi-t'owa
11. Daughter, my	el-a-m'eu-i-sun-é	i'piuwae	i'piucy	a'upiwai	n'us'pekizak'ac	na'bi-c
12. Elder brother, my	el-a-m'pu-m-é	i'pupaue	i'pupuey	a'upapua	n'upapbe	na'bi-pade

English	Piro (Barbets) (¹¹ Piro ¹¹)	Tolana del Sur (¹¹ Tlwa ¹¹)	Ialata (¹¹ Tlwa ¹¹)	Tao (¹¹ Tlwa ¹¹)	Lenz (¹¹ Jemez ¹¹)	San Ildefonso (¹¹ Tewa ¹¹)
39. Chief, governor	tsi-k'-hem-ta-é	tabuñé	tabuñé	taboná	fwi	tuyo
40. Warrior	ah-te-hém	niawetalaide		xotseleñá	bóvélá	háfise ¹¹
41. Friend	pi-ye-é		pulde	pulená	k'-lá'á	k'-éma
42. House, home	hron-na-é	nat'o	nat'o	t'úñá	tóha'a	tehva
43. Kettle	si-le-yen		lona	lalmulurná	ginda	pwela
44. Bow	hui-lé	hwide	hwide	hwilerná	á	á
45. Arrow	sa-wém	Loa	Loa	Loatúna ¹¹	tyéc	su
46. Axe	hi-ta-é	'elhoa	'eteloa	kwañá	k'-t'u-á	k'-t'u-á
47. Knife	tsé-é	tsé	'tse	tsalerná	g'it'yi	tsiyo
48. Canoe, boat	kia-noa-hem	kanoa	tsé	tsalurná	p'nic	kop'e
49. Shoes	kin-pi-é	kóp	kóp	kópurná	p'ito	o'wito
50. Pipe	pi-pa-hem	pípa	pípa	hwilerná	pípa	pípa
51. Tobacco	sa-yé	té	té	larná	lyo'ye	sak't'u:
52. Sky, heaven	ya-poi-ya-wé yapothus (O) yapol yahuley (O)	p'apuniyi	p'apuniyi	p'apóná	wápalá	sa
53. Sun	pu-é	t'áuláide	t'áuláide	t'áulerná	pe	ts'á'u
54. Moon	u-é	p'áuló	p'áuló	p'áulá	petyáa	ts'á'ase ¹¹ ndó
55. Star	a-hio-sa-é	p'ak'áuláide	p'ak'áuláide	p'asóalerná	p'a	p'a
56. Day	hrom-é	t'áuláide	t'áuláide	t'áulá	wéhu ¹¹	p'a-ue ¹¹ ndó
57. Night	no-é	nuláide	nuláide	nulá	cú	ts'áulá
58. Light	na-moe-é	p'áuláide	nuláide	nulá	sidahua	k'áuláulá
59. Darkness	na-mo-hión-é	na-mo-hión-é	na-mo-hión-é	p'áulá	p'oolo	na'tengá
				owapiyá	kwile	nak'áulá

English	Piro (Barbieri)	Telata del Sur (¹⁰ Tiwa ¹¹)	Telata (¹⁰ Tiwa ¹¹)	Tsot (¹⁰ Tsot ¹¹)	Jamae (¹⁰ Jamae ¹¹)	San Ildefonso (¹⁰ Tsot ¹¹)
84. Iron	po-ye-o-ná-é	ts	ts	kwá-k'ua	g'w	kwá-k'ua
85. Tree	i-an-ké				tyé	so ¹⁰ w
86. Wood	us-hé	é	nuu		f'w	ké
87. Leaf	a-o-lé	k'ui	k'ui		tyapac	l ¹⁰ owa
88. Bark	his-yem				ts'áts	ts
89. Grass	son-é	ts	ts		tyu ¹⁰ z	ts
90. Pine	huan-ém	wé	wé		kwáts'éc	wáts'w
91. Flesh, meat	ta-we	tuwa	tuwa		g'wáts'w	páts
92. Dog	tu-é	kwáts'idé	kwáts'idé		kyáts'w	tsé
93. Buffalo	yo-tsoo-lé	stroláts'éc	stroláts'éc		ts'áts	koo ¹⁰
94. Bear	klo-é	kóts'idé	kóts'idé		hwáts	tsé
95. Wolf	kis-jé	kwáts'idé	kwáts'idé		áts'w	k'wáts'yo
96. Deer	pi-ye	púts'idé	púts'idé		páts	páts
97. Elk	a-hoom-é				ts	ts
98. Beaver	a-ys-é		p'áts'idé		wáts	oyo
99. Tortoise	a-tzal-i-é				ápáts	oko
100. Fly	a-fu-ya-é	p'áts'idé	p'áts'idé		f'w	p'áts'idé
101. Mosquito	quen-lo-a-tu-ya-é	tankán	tankán		tyáts'w	cúts
102. Snake	pe-tsun-to-yan-é				haya	páts'idé
103. Bird	tsi-ki-é				seyt'w	tsé
104. Egg	a-we-yé	p'áts'idé	p'áts'idé		wáts	tsé
105. Feathers	yo-né	k'áts	k'áts		k'áts'áts	tsé
106. Wings	yo-na-hé	k'áts	k'áts		k'áts'áts	tsé
107. Duck	a-pém'é	p'áts'idé	p'áts'idé		wáts	tsé
108. Pigeon	pa-lo-ma-é	páts'idé	páts'idé		páts'idé	tsé
109. Fish	pu-é	páts'idé	páts'idé		tsé	tsé

110. Salmon	ma-kia-pe-tōw	k'ūa	xōtma ^a	hi ^a	k'ōwā sdlōlōsigima ^a w -ts'ā- -p'en- -p'i- -k'ōwi- -tsowā ^a - -ts'ē- -tsowā ^a p'ō:si- -be- -hil- -ke
111. Sturgeon					
112. Name	na-a-txay-ē	p'at'ō-	-mazō-	-k'wōd'jō-	
113. Affection	na-a-se-en-ē	p'ān-	p'ān-	-bucclō-	
114. White	na-u-ē	p'āmo-	p'āsi-	-u'cclō-	
115. Black					
116. Red					
Dark red					
117. Blue	na-tzu-ē	-mō-	-ba-	-wātsacclō	
118. Yellow	na-na-wa-ē	-t'ō-	-t'ō-	-t'ōcclō-	
119. Green	na-tzu se-ē	-t'ō-	-ba-	-wātsacclō-	
120. Great	ma-wē	-hō-	-hō-	-yābeli-	
121. Small	hia-wē	-yu-	-yante-	-kōled-	
122. Strong	ma-tze-ē	-kōa-	-kōa-	-wēu ^a -	
123. Young	a-tzem-ē		-t'ē m-		
124. Old	o-i-sa-ē				
125. Good	ma-na-su-o-ē	-k'ū-	-k'ū-	-wō ^a u ^a -	-hiwō'-
126. Bad	ma-na-fol-ye	-wēk'ū-	-yak'ū-	-kyumu ^a -	-nyeedapi-
127. Handsome	ma-wē	-k'ū-	-k'ū-	-ē'jā-	-sag'wō'-
128. Ugly	ma-fo-yē	-wēk'ū-	-wēk'ū-	-kyumu ^a -	-sawēg'-
129. Alive	wa-ē	-wa-	-wa-	-kwe-	-wa-
130. Dead	pi-wē	-piu-	-piu-	-pa-	-icu-
131. Cold	ma-na-ya-ē	na'c'ion	na'lauma	-wet ^a el-	nat'j
132. Warm	ma-na-ti-le	na'lidem	na'lidem	-tyila-	-sowa-
133. I	na-o-ē	na ^a	na ^a	nū	na ^a
134. Thou	e-kl-ē	jū	jū	u ^a wa	u ^a u ^a
135. He	wa-ē	na ^a	na ^a	na ^a	na ^a
		awa	awa		
136. We	na-adam				na ^a jū
137. Ye	na-na-i				pa
					m'c
					u ^a mic

English	Piro (Barbent) ("Piro")	Ialela del Sur ("Tien")	Ialela ("Tien")	Tao ("Tien")	Jemes ("Jemo")	San Ildonco ("Tien")
138. They	wa-quay		yúé	yundma ^e	nué ^e ac	náli
139. This	la-hém		yede	yendma ^e	u ^e é ^e ac	háli
140. That (less remote)			hwazé	wanéma ^e	yéac	oli
141. That (more remote)			'cimba	taia	cyu	t'á'li
142. All	ho-le-mé	'cimba	huyacat	ya	ila	shayeki
143. Many, much	ma-o-wé	hiyakem	paíyu ^e	p'ú ^e	se	toá ^e
144. Wilo	la-ou	payu ^e		he'tena	seu'mu ^e	hiá'li
145. Near	he-o-pé			yant'o	kwalach	ná'li
146. Today	hio-sé	yant'o	yant'a			
147. Yesterday	yo se (O)			huazemé	u ^e p'a	tab'ndi
148. Tomorrow	tse-mé			haloma	sedá'li	t'a'ndi
149. Yes (men say)	hwe-l-dé	aa	aa	ha ^e	o'we	hol
150. Yes (women say)	hui-y'é			ha ^e	hani	há ^e
151. No	ben-kio-yé		indaa	hā-xuena	yo	yo
152. One	eu-i-yu	sewim	wim	wema	p'ú ^e	wi
153. Two	wi-yú	wiai	wiai	wiba	wic	wé'pi
154. Three	món-tu	patoua	patoo	winá	wé'ye	wé'ye
155. Four	we-uo	wena	wien	payua	póye	póye
156. Five	an-tao	p'antua	p'anto	wilu	yona	yona
157. Six	ma-ecu	ma'li	ma'li	p'anyua	p'á'u ^e	p'á'u
158. Seven	tsu-wuh	'cu	'cuu	ma'li	má'riyi	si'
159. Eight	hui-li-yá	hwid'li	hwid'li	tsuu	tse	tse
160. Nine	hua-weh	hwé	hō'g	hwili	hōz	hōz
				hwila	bu ^e z	hwé'nu

	tén-yo	tí'á'chém	tém	tá'
159. Ten				tá'q'
160. Eleven	tén-u-t	tí'wím	tá'k'Qima	tá'p'á'
161. Twelve	tén-wí-yu	tí'wíá	tá'wema	tá'p'á'wí
162. Twenty	tén-te-yo	wíá	wíá	wé'á'á'
163. Forty	wé-na-te-leo	wíenlá	wíenlá	yónk'á'á'
164. One hundred	tén-na-te-leo	tí'wíatíá	wémiená	tá'p'á'á'
165. Four hundred	wén-tén-na-te-leo	wíenlá'wíatíá	tá'téla	wíá'k'wáá'na'wí'k'wáá'
166. One thousand	tén-yo-tén-na-te-leo	mí	wíéniená	wí'á'á'á'á'á'á'á'á'á'
167. To eat		k'u-	(tá'téla)	wí'á'á'
168. To drink	ta-sá'u-yá'u	-su-	-k'á'	-k'á'
169. To run	há-mé-wé	-tá'dá'wé-	-su-	-á'á'á'á'á'
170. To dance	hí-we-é		-wé-	-á'
171. To sing	há-ya-tá-bóí	-á'	-á'	-á'
172. To sleep	há-ya-tá-móo	-ya-	-yá'tá'	-á'á'á'á'á'
173. To speak	há-tre-sá-yú	-tu-	-yápluxa-	-á'á'á'á'
174. To see	hín-mo-oi	-má'	-tu-	-á'
175. To love	ta-pe-tao	-pe-?	-má'	-má'
176. To kill	kíe-bu-nao	-hu-	-má'tán-	-má'
177. To sit	bel-en-é	-la-	-hu-	-he
178. To stand	bel-wí-én	-wí-	-la-	-á'
179. To go	hel-o-to-yé	-mí-	-wí-	-wí'
180. To come	na-hele-yao	-á'	-má'	-má'

The stems of the Piro words are discussed first, in the order in which they occur in the vocabulary. Next the affixes are discussed in alphabetic order. The hyphenization of the Piro has been retained. Hyphens used in writing the other languages indicate that only a part of the word is quoted.

EXPLANATION OF PIRO STEMS

1. *o-ye*, man. That this word means old man is evident from P. 124 *o-i-sa-t*, old. Unexplained; but cf. J. 2, I. S. 6, and I. S. 7.

2. *su-n'e*, woman. *su-* = I. S., I. and T. 2 *liu-*. With the whole word cf. T. *liuend*, old woman, diminutive of T. *liuend*, woman.

3. *at-sam-t*, boy. Cf. P. 123 *a-tsem-t*, young; P. 122 *ma-tse-t*, strong. *t-sam-* = T. 123 *ts'em-*, young.

4. *yool-t*, girl. *yoo* = I. S., I. and T. diminutive element *uu*, *u*. With the whole word cf. I. S. 4 *unide*, little girl; I. 5 *uude*, infant.

5. *yu-wa-né*, infant. *yu-* = P. 4 *yoo* = I. S., I. and T. diminutive element *uu*, *u*. *yu-wa-* = I. S. 10 *-uwa-*.

6. *el-em-ta-ta-t*, my father. Cf. O. *quitatac* (for *quitatae*?), our father. *-ta-ta-* = I. 6 *-tata-*; J. 6 *tata*. Cf. also Spanish *tata*, father. *ta* is clearly Tanoan. Similar reduplication occurs in P. 12, 13. With *-em-ta-ta-t* cf. I. 6 *iⁿtatacy*, my father.

7. *el-em-kia-t* (for *el-em-kia-t*?), my mother. *-kia-* = I. S., I. and T. 7 *ka*. With *-em-kia-t* cf. I. 7 *iⁿnkey* (for *iⁿnkaey*?), my mother.

8. *el-a-man-tsal-a-t*, my husband. *-tsal-a-* = I. S. 8 *-söa-*. Tongue raising gives δ an I-like quality. With *-a-m-* — *-tsal-a-t* cf. I. S. 8 *iⁿnsöae*.

9. *el-a-m'sun-t*, my wife. *'sun-t* = P. 2 *su-n'e*.

10. *el-a-m'cu-i-t*, my son. *cu-* = P. 4 *yoo* = P. 5 *yu-* = I. S., I., T. diminutive element *uu*, *u*. *cu-i-* = P. 5 *yu-wa-* = I. S. 10 *-uwa-*. With *-a-m'cu-i-t* cf. I. S. 10 *iⁿnuwae*, my son.

11. *el-a-m'cu-i-sun-t*, my daughter. *el-a-m'cu-i-* = P. 10 *el-a-m'cu-i-*. *sun-t* = P. 2 *su-n'e* = P. 9 *'sun-t*.

12. *el-a-m'pu-pu-t*, my brother. *'pu-pu-* = I. S. 12 *papau-*. With *a-m'pu-pu-t* cf. I. S. 12 *iⁿnpapau-*.

13. *el-a-m'qu-qu-t*, my sister. *qu-qu-* = I. S. *-tutuu-*. With *-a-m'qu-qu-t* cf. I. S. *iⁿntutue*. It is most probable that Bartlett mistook *t* for *q*. Dr. Fewkes writes "naku," house, for my I. S. 42 *nat^aö*, house.¹ Cf. however J. 13.

¹ Fewkes, The Pueblo Settlements near El Paso, Texas, *American Anthropologist*, Jan., 1902, p. 67.

14. *a-tsi-hem*, Indian, people. *-tsi-* = I. *Ley*, Indian, people.

15. *pi-nēm*, head. *pi-* = I. S. and I. 15 *p'i* = T. 15 *p'i-*. With the whole word cf. T. 15 *p'inēma**, head. P. 15 *pi-nēm* : T. 15 *p'inēma** :: I. S. 150 *nwim* : T. 150 *woema*.

16. *sa-na-ē* (for *fa-na-ē?*), hair. Same as P. 22 *sa-na-ē*, mouth! *sa-* = P. 25 *-fa-* = I. S., I. 16 *p'a* = T. 16 *p'a-*. With *sa-na-* cf. T. 16 *p'aena*, hair.

17. *tso-hēm*, face. *tso-* = I. S. 17 *tēō* = I. 17 *tēō* = T. 17 *tēō*.

18. *tsi-kia-nēm*, forehead. *tsi-* = P. 20 *tsi-* = I. S. 20 *'ci-* = I. 20 *'ci* = T. 20 *tsi-*. *-kia-* = T. *-kwa-* in T. *tsikwanēma**, eyebrows. With the whole word cf. T. *tsikwanēma**, eyebrows, forehead.

19. *tah-so-hēm*, ear. *tah-so-* = I. S. 19 *t'alō* = I. 19 *t'alō* = T. 19 *t'alō*.

20. *tsi-hio-nē-que*, eye. *tsi-* = P. 18 *tsi-* = I. S. 20 *'ci-* = I. 20 *'ci* = T. 20 *tsi-*. The rest of the word is not explained. With *-hio* cf. 88; those words mean skin as well as bark. I. *'cik'ui* means eyelid. With *-que* one might compare J. *-kwā* in J. *sekwā* eyes; J. *se* means one eye.

21. *fu-ē*, nose. *fu-ē* = I. S. 21 *p'bi* = I. 21 *p'ōey* = T. 21 *p'ōi*.

22. *sa-na-ē*, mouth. *sa-* = P. 25 *tsa-* = I. S., I., T. 22 *ta-*.

23. *mi-n'ē*, tongue. *mi-n'ē* = I. S. 23 *nyē* = I. 23 *y'ē*. *mi-n'* is used here evidently to express nasalized *y*.

24. *we-yē*, teeth. *we-yē* = I. S. 24 *nwyē* = I. 24 *w'ē* = T. 24 *nwiā-*.

25. *tsa-fa-hē*, beard. *tsa-* = P. 22 *sa-* = I. S., I., T. 22 *ta-*, mouth. *fa-* = P. 16 *sa-* = I. S., I. 16 *p'a* = T. 16 *p'a-*, hair. The word means 'mouth-hair,' hair about the mouth. With *tsa-fa-* cf. I. S. 25 *lap'a* and T. 25 *lap'a-*.

26. *youl-wa-hem*, neck. *youl-wa-* = I. S., I. 26 *k'ōa* = T. 26 *k'ōa-*. For a similar spelling used by Bartlett cf. P. 8.

27. *hia-hem-*, arm. *hia-* = I. S., I. 27 *k'a* = T. 27 *xa-*.

28. *ma-nem*, hand. *ma-n* = I. S., I. 28 *man* = T. 28 *man-*. cf. 29 and 30.

29. *man-hio-nē*, fingers. *man-* = P. 30 *man-* = I. S., I., T. 29, 30 *ma**. Cf. 28. *-hio-* = P. 34 *-hio-* = I. S. 29, 30, 34, I. 29, 34 *-k'u-* = T. 29, 34 *-xu-*. *k'u* is said to mean end in the Isleta language. With the whole word cf. T. 29 *ma*xuēnā*, fingers.

30. *man-sa-si-hē*, nails. *man-* = P. 29 *man-* = I. S., I., T. 29, 30 *ma**. Cf. 28. *-sa-* = *-k'u-* in I. S. 30 *ma*k'u'cin*, nails; or = *-sa-* in P. 32 *pe-sa-hem*, leg. *-k'u-* appears as *-hio-* in P. 29, 34. *-si-* = I. S., I. 30 *'ci-* = T. 30 *-tsē-*. *man-sa-si-* is possibly comparable to I. S. 30 *ma*k'u'ci-*.

31. *el-en-cuerpo-t*, body (my body?). *-cuerpo-* = Spanish *cuerpo*, body.

32. *pe-sa-hēm*, leg. *pe-* = I. S., I. 32 *pa* = T. 32 *pa-*. *-sa-* = P. 77 *-sa-* = I. S., I., T. 77 *-la*, large. With *pe-sa-* cf. I. *paLa*, T. *paLa-*, "big fat leg."

33. *a-nēm*, foot. *a-n* = I. S., I. 33 *en* = T. 33 *len-*. Cf. also 34.

34. *an-hio-nē*, toes. *an-* = I. S., I. 34 *ē-* = T. 34 *le-*. *-hio-* = P. 29 *-hio-* = I. S. 29, 30, 34, I. 29, 34 *-hū-* = T. 29, 34 *-xu-*. With the whole word cf. T. 34 *le^axuēnā*, toes.

35. *ou-an-ēm*, bone. *ou-an* = I. S., I. 35 *u^a* = T. *u^au^a-*. With the whole word cf. T. *u^au^anēmā^a*, bones.

36. *pe-n'ē*, heart. *pe-* = I. S., I. 36 *piē* = T. 36 *piā-*. With the whole word cf. T. 36 *piāēnā*, heart.

37. *u-hēm*, blood. *u-* = I. S., I. 37 *u^a* = T. 37 *ē-*.

38. *tai-hone-a-t*, village. *tai-* = I. S. 38 *-tōi* = I. 38 *-tōey*. The rest of the word is unexplained.

39. *tai-k'hēm-tsa-t*, chief. Unexplained.

40. *ah-te-hem*, warrior. Unexplained.

41. *pi-ye-t*, friend. *pi-y* = *-puy-* in I. S. *i^ampuywae*, my friend = I. 41 *pui-* = T. 41 *pui-*.

42. *hron-na-t*, house. *hro* = I. S. 42 *-t^aā* = I. 42 *-t^aā* = T. 42 *t^aā-*. With *hron-na-* cf. T. *t^aūnā*, house.

43. *si-la-yem*, kettle. *si-la-* = P. 132 *-si-le* = I. 132 *-lide* = T. 132 *-lila-*, hot.

44. *hui-lē*, bow. *hui-lē* = I. S., I. 44 *hwide* = T. 44 *hwile-*.

45. *sa-wēm*, arrow; *sa-w* = I. S., I., T. 45 *Lo-*.

46. *ha-tsa-t*, axe. *ha-tsa-* = Spanish *hacha*, axe.

47. *tse-t*, knife. *tse-* = I. S., I. 47 *'cie* = T. 47 *tsia-*.

48. *kia-noa-hem*, canoe, boat. *kia-noa* = Spanish *canoa*, canoe, boat.

49. *kiu-pi-t*, shoes. *kiu-pi* = T. 49 *kōapā-*. Cf. I. S. 49 *kōap* and I. 49 *kūap*.

50. *pi-pa-hem*, pipe. *pi-pa-* = Spanish *pipa*, pipe.

51. *sa-yē*, tobacco. *sa-* = I. S., I. 51 *tē* = T. 51 *Lā-*. The *y* probably merely indicates the glide between *a* and *e*. It suggests that the tongue was raised while pronouncing *a*, thus approaching *ā* or *ē*.

52. *ya-pol-ya-wē*, sky, heaven. Both forms from O. show *yapol-*. With *pol-* or *pol-ya-* cf. T. 52 *pō-*. For this spelling cf. P. 8 and 26.

53. *pu-t*, sun. Unexplained; but cf. J. *pe*, sun.

54. *a-t*, moon. *a-* = I. S., I., T. 54 *p'ā-*.

55. *a-hio-sa-t*, star. *a-hio-sa-* = I. S. 55 *p'ak^aōLa* = I. 55 *ak^aōLa-* = T. 55 *p'axōLa-*.

56. *hrom-é*, day. *hro* = I. S. 56 *tʰə* = I. 56 *tʰə* = T. 56 *tʰə*.

57. *no-é*, night. *no* = I. S., I., T. 57 *nu*.

58. *na-moe-é*, light. *-moe* = I. *-puya*^a in I. *napuya*^a, light. For Bartlett's *m* for I. S., I., T. *p* see P. 152. But cf. also S. I. Tewa *múwā*, "the light accompanying lightning." Also cf. P. 58 *na-mo-hion-é*, darkness, in which *-hion-* seems to be the element which signifies darkness and *-mo-* merely a formative element.

59. *na-mo-hion-é*, darkness. *-hion-* is apparently the same as J. 59 *-hu*^a and S. I. 59 *-kʰu*^a. *-mo-* seems to be used in T. verbs as a temporal infix. With the structure of this word cf. P. 38.

60. *wa-i-wo-na-é*, morning *wa-i* = P. 147 *hwo-i*. Unexplained.

61. *que-na-é*, evening. Unexplained. *que* = I. S. 61 *-ki* = I. 61 *ki*?

62. *ha-le-pu-na-é*, spring. Unexplained. *ha-le-p* = P. 63 *ha-leep*. With exception of *u-na* this word is the same as P. 63, of which it is probably a diminutive.

63. *ha-leep-é*, summer. Unexplained. *ha-leep* = P. 62 *ha-le-p*. With omission of *u-na* the same as P. 62.

64. *tu-la-é*, autumn. *tu* = P. 65 *tu* = I. S., I. 64, 65 *tu* = T. 65 *tu*.

65. *tu-la-hel-ki-é*, winter. *tu* = P. 64 *tu* = I. S., I. 64, 65 *tu* = T. 65 *tu*. *-hel-ki*, unexplained.

66. *hua-é*, wind. *hua* = I. S., I. *wa* = T. *wā*.

67. *kuen-sil-u-é*, thunder. *kuen* = I. S. and I. 67 *kwan* = T. 69 *kwan*, "a sudden rain." Cf. also P. 68 *kien-si* = T. 67 *-tsi*. T. 67 *La* = J. 68 *-tyā*, *-tye*. With omission of *-si* this word is probably the same as P. 68.

68. *kien-lo-é*, lightning. Probably the same as P. 67 with omission of *-si*.

69. *na-a-wān*, rain (rain falls?). *-a* = P. 71 *a* = P. 73 *ā* = P. 74, 77, 78 *a* = I. S. 69, 74, I. 73, 74, 78, T. 73, 74, 76, 77, 78, *pʰā* = I. S. 73 *pʰā*. *-wān* = *wān* in Gatschet's I. *pʰā* 'lu 'laide *wāna*, rain (*pʰā*) fell (*wāna*) in heavy drops ('lu 'laide).¹

70. *pan-wān*, snow. *pan* = I. S., I., T. 70 *pʰā-wān*. *-wān* as in P. 69.

71. *an-y'le-sol-é*, hail. *a* = P. 69 *-a* = P. 73 *ā* = P. 74, 77, 78 *a* = I. S. 69, 74, I. 73, 74, 78, T. 73, 74, 76, 77, 78 *pʰā* = I. S. 73 *pʰā*. The rest is unexplained.

72. *fa-yé*, fire. *fa* = I. S., I., T. 72 *pʰā*.

¹Gatschet, A Mythic Tale of the Isleta Indians, New Mexico, *Proceedings of the American Philosophical Society*, vol. XXIX, p. 211.

73. *ā-ē*, water *ā-* = P. 69 *-a-* = P. 71 *a* = P. 74, 77, 78 *a-* = I. S. 69, 74, I. 73, 74, 78, T. 73, 74, 76, 77, 78 *p'ā-* = I. S. 73 *p'ā*. The circumflex suggests that Bartlett noticed some peculiar quality of the *ā-*, perhaps the initial *p'*.

74. *a-tē-ē*, ice. *a-tē-* = I. S., I. 74 *p'ācie* = T. *p'ācie*. *a-* is evidently the word for water, as in P. 69, 71, 73, 77, 78.

75. *na-f'ō-ē*, earth, land. Cf. O. *nafoleguey*, on earth. *na-* = I. S. 75 *nam* = I., T. 75 *nam*. The rest is unexplained.

76 — — —.

77. *a-sā-ē*, river. *a-sā-* = I. S. 77 *p'ēla-* = I. 77 *p'ēla*, or = T. 77 *p'āla-*. T. *p'āla-* clearly means big water. Whether P. 77 *a-* is the same as T. *p'ā-* or is rather to be compared to the obscure *p'e-* in the I. S. and I. words cannot be determined.

78. *a-tsi-ē*, lake. *a-tsi-* = T. *p'ātsi-* in T. *p'ātsinā*, spring. *a-* = P, 69 *a-* = P. 71 *a* = P. 73 *ā-* = P. 74, 77 *a-* = I. S. 69, 74, I. 73, 74, 78, T. 73, 74, 76, 77, 78 *p'ā* = I. S. 73 *p'ā*.

79. *ki-a-yo-nā-ē*, valley. *ki-a-yo-* = T. 79 *xōa-*.

80. *he-hem*, hill, mountain. *he-* = I. *huē*, hill, mountain?

81. *na-īla-ē* island. *-īla-* = Spanish *īla*, island.

82. *īa-wē*, stone. *īa-w* = P. 84 *-ya-o-* = I. S. 82 *k'īaw* = I. 82 *k'īuw* = T. 82 *hiuw*. Cf. especially I. S. 82 *k'īaw*, stone.

83. *so-ān-ē*, salt. *so-*, unexplained. *-ān-ē* = I. S. 83 *p'ani*, salt. Cf. also I. 83 and T. 83.

84. *po-ya-o-nā-ē*, iron. *po-*, unexplained. *-ya-o-* = P. 82 *īa-w* = I. S. 82 *k'īaw* = I. 82 *k'īuw* = T. 82 *hiuw*, stone.

85. *i-sā-kē*, tree. The Tanoan languages possess no generic name for tree. *i-*, unexplained. *-sā-* = P. 86 *sa-* = I. S., I. 86 *īa* = T. 86 *īa*.

86. *īa-kē*, wood. *īa-* = P. 85 *-sā-* = I. S., I. 86 *īa* = T. 86 *īa*.

87. *a-o-lē*, leaf. *a-o-* = I. S. 87 *ū* = I. 87 *-u* = T. 87 *ū*.

88. *hīa-yem*, bark. *hīa-* I. S. 88 *k'ai*, skin, bark = T. 88 *xai*, skin, bark. Cf. also I. 88 *k'ui*, skin, bark and P. 20 *-hio-*.

89. *son-ē*, grass. *son-* is the phonetic equivalent of J. 89 *tyu**, grass. J. 89 *tyu** : P. 89 *son-* :: J. 59 *-hu** : P. 59 *-hion-*.

90. *huan-em*, pine. *hua* = I. S. 90 *wē* = I. 90 *wi* = T. 90 *wā*. Cf. especially the I. S. and T. forms.

91. *īa-wē*, meat. *īa-wē* = I. S., I. 91 *tutwa* = T. 91 *tutwa*.

92. *tsu-ē*, dog. *tsu-* = T. 92 *tsu-*. Cf. also S. I. *tse*, dog. The I. S., I and J. use an entirely different word.

93. *yo-tson-ē*, buffalo. Unexplained. No native word for buffalo could be obtained at I. S. or I.

94. *kio-é*, bear. *kio-* = I. S. 94 *kōa-* = I. 94 *kūa-* = T. 94 *hōa-*.
95. *kia-lé*, wolf. *kia-* = I. S., I., T. 95 *ka-*.
96. *pi-ye*, deer. *pi-* = I. S., I. 96 *pi-* = T. 96 *pā-*. Cf. especially the I. S. and I. forms.
97. *a-hoom-é*, elk. *a-hoom-* = T. *p'a hum-* in T. *p'a humenā*, white-tailed deer. Bartlett's informants doubtlessly misunderstood him.
98. *a-ya-é*, beaver. *a-ya-* = I. 98 *p'a'ca-* = T. 98 *p'aya-*. Cf. especially T. *p'aya-*.
99. *a-tsal-i-é*, tortoise. *a-tsal-i-* = T. 99 *p'atsahu-*. The u of the Taos form is sometimes unlauted into an i-like sound by its setting.
100. *a-fu-ya-é*, fly. *a-fu-ya-é* = P. 101 *a-tu-ya-é*. For *a-* see list of formative elements. *-fu-ya-* = I. S., I., T. 100 *p'unyu-*.
101. *quen-lo-a-tu-ya-é*, mosquito. Bartlett suggests that the word means "the insect that bites." *quen-lo-* somewhat resembles T. 101 *xwitola-*. *-a-tu-ya-é* = P. 100 *a-fu-ya-é*, fly, "insect."
102. *pe-tsun-to-yan-é*, snake. *pe-tsu-* = T. 102 *pātsu-*, snake. The I. S. and I. forms, when obtained, will probably begin with *pe* or *pi*. The rest of the word is unexplained.
103. *tsi-ki-é*, bird. *tsi-* = T. 103 *tsi-*, bird. The T. form is apparently a diminutive.
104. *a-we-yé*, egg. *a-we-* = I. S., I. 104 *p'ahwe-* = T. 104 *p'ahwā-*.
105. *yo-né*, feathers. *yo-* = P. 106 *yo-* = I. S. 105 *k'ea-* = I. S. 106, I. 106, T. 105, 106 *k'ea-*.
106. *yo-na-hé*, wings. *yo-* = P. 105 *yo-* = I. S. 105 *k'ea-* = I. S. 106, I. 106, T. 105, 106 *k'ea-*.
107. *a-pēm'é*, duck. *a-pē-* = I. S., I., T. 107 *p'api-*.
108. *pa-lo-ma-é*, pigeon. *pa-lo-ma-* = Spanish *paloma*, pigeon. I. S., I. 108 *kaipaide*, T. 108 *p'iāngaiapaana*, mean wild pigeon.
109. *pu-é*, fish. *pu-* = I. S., I. 109 *pu-* = T. 109 *pō-*. Cf. especially the I. S. and I. forms.
110. _____
111. _____
112. _____
113. *ma-kia-pe-tōw*, affection. *ma-kia-* = T. 113 *maxā-*. *-pe-tōw* = P. 175 *-pe-tao-*. *-pe-* may be compared with the doubtful I. 175 *-pe-*, to love.
114. *na-a-tsay-é*, white. *a-tsay-* = I. S. 114 *p'at'ā-* = I. 114 *p'at'ā-* = T. 114 *p'at'ā-*, white.
115. *na-a-se-en-é*, black. *-se-en-* = I. S., I., T. 115 *p'ān-*, black.
116. *na-u-é*, red. With *-u-* cf. J. 116 *u'*, red, and S. I. 116 *ā'*, dark red. Cf. also P. 37 *u-*, blood.

117. *na-tseu-é*, blue. *-tseu-* = P. 119 *-tseu-* = I. 119 *-cu-*, green. Cf. also T. 117, 119 *-tsa-*, blue, green. With omission of *-se-* the same as P. 119.

118. *na-sa-wa-é*, yellow. *-sa-wa-* = I. S., I. 118 *-te'u-* = T. 118 *-ts'u-*, yellow.

119. *na-tseu-se-é*, green. *-tseu-* = P. 117 *-tseu-* = I. 119 *-cu-*. Cf. also T. 117, 119 *-tsa-*, blue. With *-se-* cf. S. I. 119 *-si-*. *-se-* inserted, otherwise the same as P. 117.

120. *ma-wé*, great. *ma-wé* = P. 127 *ma-wé*, handsome. *ma-* = P. 121, 122, 126, 127, 128, 131, 132, 142 *ma-*. See list of affixes. With *ma-* cf. S. I. *ma-*, great, superior.

121. *hia-wé*, small. *hia-* = I. S., T. 121 *-ya-*. Cf. also I. 121 *-yu-*.

122. *ma-tse-é*, strong. *-tse-* = P. 3 *t-sa* = P. 123 *-tse* = T. 123 *-ts'e-*, young.

123. *a-tsem-é*, young. *-tsem-* = P. 3 *t-sam-*, boy = T. 123 *-ts'em-*, young. Cf. also P. 122 *-tse-*, strong.

124. *o-i-sa-é*, old. Unexplained. *o-i-* = *o-y* in P. 1 *o-ye*, man.

125. *ma-na-su-o-é*, good. *-su-*, unexplained.

126. *ma-na-foi-ye*, bad. *ma-foi-ye* = P. 128 *ma-fo-yé*, ugly. Unexplained.

127. *ma-wé*, handsome. *ma-wé* = P. 120 *ma-wé*, great. Cf. S. I. *ma-*, great, superior.

128. *ma-fo-yé*, ugly. With exception of *-na-* the same as P. 126 *ma-na-foi-ye*, bad. Unexplained.

129. *wa-é*, alive. *wa-* = I. S., I., T. 129 *-wa-*.

130. *pi-wé*, dead. *pi-w* = I. S., I., T. 130 *-piu-*.

131. *ma-na-ya-é*, cold. *-ya-*, unexplained.

132. *ma-na-si-lé*, warm. *-si-lé* = P. 43 *si-la* = I. 132 *-lide-* = T. 132 *-lila-*.

133. *na-o-é*, I. *na-* = I. S., I., T. 133 *naⁱ*. In I. S., I. and T. some intransitive verbs denoting motion begin in the first person singular with *na^o*.

134. *e-ki-é*, thou. *e-* = I. S., I. 134 *i^o* = T. 134 *é*.

135. *wa-é*, he. *wa-* = P. 138 *wa-* I. S., I. 135 *awa*, he, she, it = T. 135 *awe-*, that one. *na*, also meaning he, she or it, occurs 26 times in the Piro vocabulary. See list of affixes.

136. *na-tāam*, we. *am*, unexplained.

137. *na-sa-i*, ye. *-i* = P. 134 *e-* = I. S., I. 134 *i^o* = T. 134 *é*.

138. *wa-quay*, they. *wa-* = P. 135 *wa-* = I. S., I. 135 *awa* = T. 135 *awe-*.

139. *ia-hém*, this. *ia-* = I., T. 140 *ye-*, that (less remote).

140. ————

141. *ho-le-mé*, all. Unexplained.

142. *ma-o-wé*, many, much. -o-, unexplained.

143. *ta-ou*, who. *ta-ou* = I. S. 143 *payu** = I. 143 *paiyu**. Cf. T.

143 *p'u**. Cf. also I. S. 143 *toḍ*.

144. *he-o-pé*, near. *he-* = T. 144 *he-*.

145. *hio-sé*, today. Cf. O. *yo se*, this day. *hio-se* = I. S. 145 *yant^aḍ* = I. 145 *yant^aḍ* = T. 145 *yant^aḍya*. With *hio-* and *yan-* cf. P. 139 *ia-* and I. T. 140 *ye-*, that (less remote).

146. *tse-mé*, yesterday. Unexplained. Cf. S. I. 146 *tsā'ndi*, yesterday.

147. *hwe-i-dé*, tomorrow. Unexplained. *hwe-i-* = P. 60 *wa-i-*.

148. *hoi-y'é*, yes. It is assumed that this is the men's word for yes, since Bartlett's informants were men. *hoi-y* appears to be identical with the S. I. men's word for yes, *hoi*. The I. S., I. and T. show no difference between the men's and women's language, and at S. I. there seems to be a tendency on the part of the men to substitute *hā'*, the women's word for yes, for *hoi*, the men's word.

149. *hen-kio-yé*, no. *hen-kio-* = T. 149 *hā'xu-*.

150. *cu-i-yu*, one. *cu-i-* = P. 160 *-u-i* = I. S. 150 *mwi-* = I. S. 160 *-mwi-* = I. 150 *wi-* = I. 160, 164, 165 *-wi-* = T. 150 *wi-* = T. 150, 164 *we-* = T. 160 *-we-*. For *-yu*, *-u* of this and following numerals see the list of affixes.

151. *wi-yá*, two. *wi-* = P. 161 *-wi-* = I. S., I., T. 151, 162 *wi-* = I. S., I., T. 161 *-wi-*. P. shows *-yu*; I. S. and I. show *-si*; T. shows *-inā*. Possibly more than one suffix can be used in each of these languages.

152. *mōn-tu*, three. *mōn-tu* = I. S. 152 *patcu-* = I. 152 *patco*. Cf. also T. 152 *payua* and with Bartlett's *-tu* cf. possibly J. 252 *tāx*.

153. *we-no*, four. *we-no* = P. 163 *we-na-* = I. S. 153 *wena* = T. 153 *wiānu*. *we-n-* = P. 165 *wen-* = I. S. 163 *wcen-* = I. 153 *wien* = I. 163, 165 *wien-* = T. 163, 165 *wiān-*.

154. *an-tao*, five. *an-tao* = I. S. 154 *p'antua*. *an-ta* = I. 154 *p'anto*. Cf. T. 154 *p'anyua*.

155. *ma-seu*, six. *ma-se* = I. S., I., T. 155 *ma^aLi*.

156. *tsu-wuh*, seven. *tsu-wuh* = I. 156 *'cuu* = T. 156 *tsuu*. *tsu-* = I. S. 156 *'cu*.

157. *hui-li-yá*, eight. *hui-li-* = I. S., I. 157 *hwidi* = T. 157 *hwili*.

158. *hua-weh*, nine. *hua-weh* = I. S. 158 *hwé* = I. 158 *hū'd*. Cf. T. 158 *hwé'd*.

159. *tēn-yo*, ten. *tēn-yo* = P. 162 *-te-yo-* = P. 166 *tēn-yo-*. *tēn-* = P. 160, 161, 162 *tēn-* = P. 165, 166 *-tēn-* = I. S. 160, 161 *tē^a-* = I. S.

162, 163 -*ti** = I. 159, 160, 161, 164 *ti** = I. 162, 163, 164, 165 -*ti** = I. 165 -*ti** = T. 159 *te* = T. 159, 160, 161, 164, 166 *ti** = T. 162, 163 -*ti**. The suffix -*yo* appears on this word only in P. 159, 162, 166. For -*na*- of *tên-na*- see list of affixes.

160. *tên-u-i*, eleven. Cf. P. 159 and P. 150.

161. *tên-wi-yu*, twelve. Cf. P. 159 and P. 151.

162. *tên-te-yo*, twenty, literally "tenteen." Cf. P. 160 and P. 161. -*te-yo* probably for *tên-yo*. Cf. P. 159. The other languages all show a form which contains the numeral two.

163. *we-na-te-leo*, forty. With *we-na*- cf. P. 153, -*te-le* = P. 164 -*te-le* = P. 165, 166 -*ta-le* = T. 164 (166) -*têla*.

164. *tên-na-te-leo*, one hundred. With *tên*- cf. P. 159. For -*na*- see list of formative elements. With *te-le* cf. P. 163, 165, 166, T. 164 (166).

165. *wen-tên-na-ta-leo*, four hundred. With *wen*- cf. P. 153. With -*tên*- cf. P. 159. For -*na*- see list of formative elements. With -*ta-le* cf. P. 163, 165, 166, T. 164 (166).

166. *tên-yo-tên-na-ta-leo*, one thousand. With *tên-yo*- cf. P. 159. With -*tên*- cf. P. 159. For -*na*- see list of formative elements. With -*ta-leo* cf. P. 163, 165, 166, T. 164 (166).

167. — — — — —.

168. *ta-sôn-yau*, to drink. -*sôn* = I. S., I., T. 168 -*su**.

169. *ha-me-wé*, to run. -*me*- = I. S., I. 179 -*mi** = T. 179 -*mâ**. With -*wé* cf. possibly I. S., I. T. 169 -*we*-.

170. *hi-we-tê*, to dance. Unexplained.

171. *ha-ya-ta-hoi*, to sing. -*ya-ta* = T. 171 -*yal* a-.

172. *ha-ya-tu-mû*, to sleep. -*ya*- = I. S., I., T. 172 -*ya*-.

173. *ha-tse-ta-yoi*, to speak. With -*tse*- cf. possibly J. 173 -*tse*-.

174. *hin-mo-oi*, to see. -*mo*- = I. S., I. T. 174 -*mu**.

175. *ta-pe-tao*, to love. -*pe-tao* = P. 113 -*pe-tôw*. With -*pe*- cf. the doubtful I. -*pe*-, to love.

176. *kis-hu-nao*, to kill. -*hu*- = I. S., I., T. 176 -*hu*-.

177. *hel-en-t*, to sit. With -*en*- cf. possibly S. I. 177 -*â**.

178. *hel-wi-tu*, to stand. -*wi*- = I. S., I., T. 178 -*wi*-.

179. *hel-o-fo-yé*, to go. Unexplained.

180. *na-kele-yao*, to come. -*e*- = I. S., I. 180 -*i** = T. 180 -*â**.

EXPLANATION OF PIRO AFFIXES

a-, a prefix accompanying adjectives, the same as I. S., I., T. *p'a*-. P. 3, 114, 115, 123.

a-, a prefix occurring with names of animals and with the word meaning egg, the same as I. S., I., T. *p'a*-. P. 97, 98, 99, 100, 101, 104, 107.

-a, a suffix accompanying numerals. See *u*.

an-, unexplained. P. 8.

-e, adjective suffix, the same as I. S., I., T. -e, -i. Cf. T. *wem tsula wae*, an alive dog, a dog is alive. P. 3, 122, 123, 129, 130.

-e, verbal suffix with the meaning "is," the same as I. S. -e, probably the same as the adjective -e above. P. 41, 46, 47, 48, 53, 54, 55, 57, 64, 66, 73, 74, 77, 78, 82, 83, 89, 92, 94, 95, 96, 97, 98, 99, 100, 101, 102, 108, 109, 133, 135, 148.

-e, used with possessive pronominal prefixes, probably the same as the preceding, the same as I. S., T. -e, I. -ey. P. 6, 7, 8, 9, 10, 11, 12, 13, 31.

-e, a part of the stem of the word according to the evidence of the other languages. P. 21, 23, 24, 83, 91 (?), 132.

-e, a suffix accompanying verbs. P. 177.

-ee, a suffix accompanying verbs. P. 170.

el-em-, *el-a-m*-, *el-en*-, possessive pronominal prefix of the first person singular. *el*-, unexplained. -em-, -a-m-, -en- = I. S., I. *iⁿn* = T. *aⁿn*. This prefix is invariably accompanied by the suffix -e. P. 6, 7, 8, 9, 10, 11, 12, 13, 31.

-em, unexplained. In the corresponding T. words -*enéma*ⁿ and -*anéma*ⁿ occur. P. 28, 33, 45.

-en, a suffix accompanying verbs. P. 178.

ha-, *hi*-, *hin*-, a suffix accompanying verbs. P. 169, 170, 171, 172, 173, 174.

-he, unexplained, possibly the same as -e. P. 25, 30, 86.

hel-, *hel*- a prefix and infix accompanying verbs. P. 177, 178, 179, 180.

-hem, unexplained. In P. 17, 19, 26, 37, 48 this appears where I. S., I. have -a- and in 80 where I. has -i. P. 14, 17, 19, 26, 27, 30, 37, 40, 48, 50, 80, 139.

-hói, a suffix accompanying verbs. P. 171.

-i, unexplained. P. 85.

-ki-e, unexplained. P. 65, 103, 134.

kie-, a prefix accompanying verbs. P. 176.

-ke, unexplained. P. 85.

-la-, -le-, -lee, unexplained. P. 62, 63, 64, 65, 141.

-le, *l-e*-, -de, unexplained. In P. 4, 44 it corresponds to I. S., I. -de, in P. 44 also to T. -le. P. 4, 44, 71, 87, 93, 147.

l-e, O. -le-, -ley, possibly locative. O. *y apol y ahuley*, in heaven. P. 75 *na-f'ol-i*, earth. O. *nafoleguy*, on earth.

-lo-i, *l-u-e*-, unexplained. P. 67, 68.

-m, the same as I. S., I. -m, T. -m-. P. 3 and 123 (cf. P. 122).

ma-, "very, much," according to Bartlett's note. P. 122, 125, 126, 128, 131, 132, 142.

-me, unexplained. P. 56, 107, 141, 146.

-mo-, infix accompanying verbs. P. 58 (?), 59.

-moo, suffix accompanying verbs. P. 172.

-n, apparently the same as T. *-nd*. P. 102.

na-, meaning he, she, or it, without a following *-e*. P. 61, 126, 132, 137, 138, 180.

-na-, suffix on numerals. See *-u*.

-nao, a suffix accompanying verbs. P. 176.

na- — *-e*, apparently meaning it is. P. 58, 59, 81, 114, 115, 116, 117, 118, 119, 125, 131.

-na-e, most of the corresponding words in T. have the suffix *-nd*. P. 16, 22, 43, 60, 61, 62, 79, 84.

-na-he, probably the same as *-na-e*. P. 106.

-ne, corresponding in almost every case with T. *-nd*. P. 2, 4, 9, 11, 20, 29, 34, 36, 105.

ne-a-e, probably the same as *-na-e*. P. 38.

-nem, corresponding in P. 15 and 18 with T. *-nema*°. P. 15, 18, 35, 90.

-o, suffix on numerals. See *-u*.

-oi, a suffix accompanying verbs, perhaps the same as *-hoi*. P. 174.

-pe, unexplained. P. 63, 144.

-quay, *-que*, a plural sign? P. 120, 138.

-sa-, great. P. 32, 77.

-sa-, *-sd*, unexplained. P. 136, 137, 173.

-sa-e, *-tsa-e*, unexplained. P. 39, 124.

ta-, a prefix accompanying verbs. P. 168, 175.

-tao, *-tow*, found only in connection with the meaning affection. P. 113, 175.

-te-le, *-ta-le*, tens. This is the same as T. *-tela*. P. 163, 164, 165, 166.

-u, *-uh*, *-o*, *-a*, *-yu*, *-yo*, a suffix accompanying numerals. In the Tiwa language under certain syntactic conditions a vowel of the *a-o-u* series of somewhat obscure quality may be suffixed to the numerals, reminding one of the colloquial German *eina*, *zweia*, *dreia*, etc. We probably have this same suffix before us in the endings of the Piro numerals. *-yu* appears, preceded by *i-*, in P. 150 *eu-i-yu*, one (T. 150 *wema*), P. 151 *wi-yu*, two (T. 151 *witna*), P. 157 *hwi-li-yu*, eight (T. *hwiliu*, *hwilita*). Assuming that P. *y* in these words represents merely a glide occasioned by preceding *i-* only the P. and T. words for eight exactly correspond, while the T. words for one and two contain infixes which the P. words do not con-

tain. *-yo* occurs in P. 159 *tên-yo*, ten, P. 162 *tên-te-yo*, twenty, P. 166 *tên-yo-tên-na-ta-leo*, one hundred. Elsewhere the numeral ten is *tên*. Nothing corresponding to *-yo* has been found in the other Tanoan languages. The other P. numerals, except P. 158 *hua-weh*, nine, and P. 160 *tên-u-i*, eleven, suffix, *a*, *o*, *u*, *uh*. In P. 152 *môn-tu*, three, *u* seems to be a part of the stem. P. 152 *môn-tu* = I. 152 *patco*. I. S. 152 *patcua*, T. 152 *payua* show the suffix. *-t* of P. 152 is peculiar, the equation being P. *y* = I. S., I. *tc*, 'c' = T. *y*. P. 153 *we-no*, four, P. 163 *we-na-te-leo*, forty, show the same suffix as I. S. 153 *wena*, four, T. 153 *widnu*, four (also heard as *wiāna*). P. 154 *an-tao*, five, shows *o* comparable with *a* of I. S. 54 *p'antua*, five, T. 154 *p'anyua*, five. Here as in P. 152 P. *-t* corresponds to T. *y*, but I. S., I. agree with P., having *t*. P. 155 *ma-seu*, six, P. 156 *tsu-wuh*, seven, P. 163, 164, 165, 166 *-te-leo*, *-ta-leo*, tens, show the same suffix as do the T. forms *ma^aliu*, *ma^alia*, six, *tsuu*, *tsua*, seven, *-telau*, *-telaa*, tens. *a-* of P. 164, 165, 166 *tên-na* is probably the same suffix as seen in T. *tēnu*, *tēna*, ten. There are therefore in the Piro vocabulary examples of the suffixing of a rounded vowel to each of the numerals except the numerals three and eight.

-uh, a suffix accompanying numerals. See *u*.

-we, *-o-e*, unexplained. P. 52, 120, 121, 125, 127, 142.

-yao, *-yau*, a suffix accompanying verbs. P. 168, 180.

-ye, probably the same as *-e*. P. 1, 51, 72, 104, 126, 128, 149.

-yem, comparable with *-em*, *-hem*. P. 43, 88.

-yoi, a suffix accompanying verbs. Cf. *-hoi*, *-oi*. P. 173.

-yo, a suffix accompanying numerals. See *-u*.

-yu, a suffix accompanying numerals. See *-u*.

In writing Piro, Bartlett commits inaccuracies which are common to many other vocabularies of Tanoan languages. The most noticeable are the writing of *s* for *z* and the regular omission of *p'* and *k'*. In the following tabulation the individual phonetic elements occurring in the vocabulary of the language of Isleta del Sur, arranged in alphabetic sequence, are compared with the corresponding sounds of the vocabularies of the other languages. The number of times a spelling is found in Bartlett's vocabulary is indicated in parenthesis.

I. S.	I.	T.	P.
a	a	a, ā	a (73), ā (1)
ai	ai	ai	ay (1)
a ^a	a ^a	a ^a	an (2) a (1)

I. S.	I.	T.	P.
i, e, é	i, e, è	è, ā, ā, ā ^a	i (2), e (5), a (2), en (1)
d	d	l	l (11)
e	e, ey	e, è, à	e (80), è (89), é (1)
e	e	ie	a (1)
ea	ea	ea	yo (2)
e ^a	e ^a	ie ^a	an (1)
	ey		i (1)
		h	h (3)
h	h	h	h (1)
hw	hw	hw	hu (2), w (1)
	hw		h (1)
hw ^a	hū ^a	hwi ^a	huaw (1)
i	i	i	i (14), e (3)
iaw	iuw	iuw	iaw (1), yao (1)
ie, ié, e, ec	ie, iè	ie, iā, ia	e (5), è (1)
i ^a , i ^a	i ^a	ā ^a , a ^a	e (14), i (1), en (7), en (1)
iu	iu	iu	u (3), iw (1)
k	k	k	ki (5)
kw	kw	kw	ki (2), ku (1)
k ^b	k ^b	x	hi (6), ki (3), — (2), s (1?)
		xw	qu (1)
k'	k'	k'	— (3)
L	L	L	s (15), ts (3)
m	m	m	m (19)
mw	w	w	eu (1), u (1)
mwmy	w ^a	rwī	wey (1)
n	n	n	n (59), — (1)
ny	ny	ny	y (2), ly (1?)
ny	y ^a		min' (1)
o	o	o	o (3), aw (1)
ōa, ōa	ōa, ōa, ōa	ōa	ala (1), oulwa (1), in (1), io (1)
			iu (1), o (3)
p	p	p	p (15), m (2), t (1)
p ^b	p ^b	p ^b	f (4), s (2), p (1), t (1)
p'	p'	p'	— (17), p (1)
s	s	s	s (1), ts (1)
t	t	t	t (1), q (1?)
tc	tc	y	t (1)
t	t	y	t (1)
t ^b	t ^b	t ^b	hr (2), tz (1), s (1)

I. S.	I.	T.	P.
t'	t'	t'	t (2)
'c	'c	ts	ts (8), tz (3), s (2)
tc'	tc'	ts'	ts (2), tz (2), s (1)
u	u	u	u (14), o (8), a (2), oo (1), ũ (1)
u ^a	u ^a	u ^a , u ^a u ^a	ou (2), u (1), õn (1)
uu	uu	uu	eu (2), yu (1)
uy	ui	uy	iy (1)
	uya ^a		oc
û, ô	û, ô	û, õ, õya	o (3), awa (1), ay (1), ee (1), e (1)
w	w	w	w (13), u (2), hu (2)
y	y	y	y (4), hi (2), i (1), — (1)

Of the 180 words contained in Bartlett's Piro vocabulary, 158, or 87 percent, have stems so nearly identical with the corresponding stems in the speech of Isleta del Sur, Isleta, and Taos, that the discrepancies may most easily be attributed to Bartlett's inaccurate orthography. Of the stems not explained by the Tiwa, four are elucidated by a comparison with the Jemez and Tewa languages, and six are borrowed from the Spanish. Therefore only twelve stems, or seven percent of the entire number, remain unexplained. The writer is confident that further study of Tiwa will explain these as well as the Piro affixes.

Bartlett's spellings do not enable us to determine with any degree of accuracy whether Piro stood nearer to the Isleta or to the Taos dialect of Tiwa, or whether it was a third Tiwa dialect differing from each of these as much as they differ from each other. Our results favor the latter assumption. In our vocabularies 59 Piro stems bear equal phonetic resemblance to Isleta del Sur, Isleta, and Taos; 29 Piro stems more closely resemble Taos; and 25 stems more closely resemble Isleta del Sur or Isleta.

Thus the very document on which Powell based his classification of Piro as a language distinct from Tiwa, when examined with the aid of comparative Tanoan vocabularies confutes that classification and confirms the evidence furnished by Pimentel and also by my informant, Marcos Pedraza, to the effect that Piro and Tiwa are the same language. Pimentel's grouping "Thaos ó Piro" is doubtless based on *old and trustworthy* information.¹

¹ Pimentel's classification of the unrecorded and extinct language of the Suma as belonging to the same group is perhaps as reliable.

The writer suggests that the term Tiwa language be extended to include Piro, and proposes the following classification of the Tanoan languages. Inasmuch as the form of the numeral six is different in each of the three Tanoan languages as classified below yet does not perceptibly vary with the varying dialects of each of these languages, it may be well to employ that numeral as a classificatory handle, as the variant forms of the word meaning one hundred have been put to use by Brugmann in his grouping of the languages of the Indo-European family.

A. The Tiwa¹ or *Ma'zi* language, spoken by the (1) Taos, Picuris; (2) Sandia, Isleta, Isleta del Sur; (3) Piro.

B. The Tôwa² or *Mi'styi* language, spoken by the Jemez and Pecos.

C. The Tewa³ or *Si* language, spoken by the Hano, San Juan, Santa Clara, San Ildefonso, Nambe, Pojoaque, Tesuque, and Tano⁴.

The name Piro is not known to the Tewa and Jemez. The forms found in Spanish documentary sources are Piro, Piros, Pira. Marcos Pedraza of Senecú pronounced the word as in Mexican. Ponciano Luin of Isleta del Sur said that the Isleta del Sur and also the Piro form is *Pidû*. Among the notes of a friend on information obtained by him from the old cacique of Picuris I find the following: "Pecos pueblo, *Huqua*; Pecos people, *Pelóné*. Some of the Pecos people went south to El Paso, Texas,"⁵ The suffix *-né* is the same as Taos *-na*. Have we not here a recollection of the name and history of the Piro?

SCHOOL OF AMERICAN ARCHAEOLOGY
SANTA FÉ, NEW MEXICO

¹ The author suggests that *Tiwa* be used as the name of the language and that the dialects be designated: (1) Taos; (2) Isleta; (3) Piro.

² The Jemez and Pecos speak of their language as *tôwa ti'á'dta'*, the home language (*tôwa*, home + *ti'á'd*, people + *ta'*, talk).

³ The Tewa call their language *tôwa ta'di*, the home language, the native language (*tôwa*, home, native + *ta'di*, language).

⁴ The Tano, who formerly lived about Rio Santa Fé and Rio Galisteo, spoke the same language as the Tewa.

⁵ Used by courtesy of Mr H. J. Spinden.

ARCHEOLOGICAL REMAINS ON THE COAST OF NORTHERN BRITISH COLUMBIA AND SOUTHERN ALASKA

By HARLAN I. SMITH

ON my hasty archeological reconnaissance of the North Pacific coast, between Seattle and Skagway, carried on during July, August, and September, for the American Museum of Natural History, I endeavored to locate sites for future exploration north of the region examined for the Jesup North Pacific Expedition in 1897-1899 and for the American Museum of Natural History in 1903. The previous work had carried the reconnaissance as far north as Fort Rupert in northern Vancouver island.

New evidence of the distribution of chipped artifacts and interior culture, consisting of two large chipped points and a steatite pipe, apparently modern, were found in Bellacoola, as described in the last issue of this journal. The chipped objects found in a gravel deposit, possibly very old, mark, so far as known, the most northerly distribution of such objects on the coast of British Columbia. The location of an ancient village site and a wooden fish trap near Bellacoola are mentioned in the same paper.

A stone hammer of sub-cylindrical form, that is, oval in cross section (no. 16.1-405), found near Bellacoola by Mr B. Filip Jacobsen, was given by him to me. It is of gray slate-like rock, pecked into form and polished unusually smooth for such an object. One end is particularly smooth, only slightly convex, and meets the periphery at nearly a right angle without any sign of intentional rounding; the other, presumably of similar shape, is broken off, apparently from use. Similar hammers were collected by us on the northern end of Vancouver island.

On the northern side of Skeena river, on the right-of-way of the Grand Trunk Pacific Railroad, near grade mile-post either 85 or 87, are graves, according to Mr H. Blake, a railroad employe residing at Prince Rupert, British Columbia.

There are shell-heaps at Old Metlakatla, near Prince Rupert, and at a number of places between Metlakatla and Prince Rupert. The one at Metlakatla may be seen in walking along the village street, and especially around the beach of the point east of the mission, where a vertical section, perhaps four feet high, is exposed. There are some petroglyphs on the rocks in the talus slope of the shell-heap on this point, at about the high-tide mark.

Between Metlakatla and Prince Rupert, as viewed from a launch in the stream, on the 30th of July, there could be seen, in various Indian gardens, what appeared to be ancient shell-heap material. One heap on the northern end of Digby island, perhaps two or three miles southeast of Metlakatla, is at the mouth of a small stream three or four feet wide. There is an Indian house as well as a garden on this heap. It is apparently three or four feet high, slopes toward the beach, and in places has been undercut by the surf.

A search of the surface revealed clam, mussel, cockle, and whelk shells, very black soil, fragments of burnt stones, and broken bones of human beings, as well as of fish and other animals. Among the clam shells were noticed those of *Saxidomus nuttalli* Conrad and *Tapes staminea* Conrad. In the talus slope, or where the shell-heap is undermined by the surf, two battered pebbles were found. The first (no. 16.1-408) is a hard stone, irregularly oval in form, one end smaller than the other and slightly battered. The larger end is somewhat more battered and shows where a chip has been detached. The second (no. 16.1-409) is a fragment of a pebble, a little more than twice as long as wide, and about twice as wide as thick. The lower end is slightly larger than the other and has been considerably battered. Both ends have been fractured, apparently from use. One side and two edges present the natural surface of the pebble. The edge where this piece has been broken from the pebble has been rounded by battering, and this battering at the upper end on one side has been carried over the natural side-edge of the fragment. This battering or pecking has been done apparently to bring the piece into form, while the battering and chipping of the ends is no doubt the result of use.

These two specimens may have been used as hand-hammers or pestles, but possibly they were used in a game, and are similar to



PETROGLYPHS ON THE BEACH BELOW HIGH-WATER MARK, NORTH OF WRANGEL, ALASKA

specimens found at the mouth of the Klicksiwi river on Vancouver island.¹

There is a shell-heap on the eastern side of the island southwest of Port Simpson. An Indian house and potato patch are on this heap. It is perhaps two feet in height and has been slightly undercut by the surf. On the surface I found nothing excepting clam, cockle, and mussel shells. On the mainland to the eastward is what appears from the water to be a larger shell-heap.

Two grooved granitic pebbles were found on the beach at Port Simpson. One of these (no. 16.1-410) is generally oval, and is grooved around the shorter circumference. The other (no. 16.1-



FIG. 101. — Tsimshian village on the southern side of Compton island, Steamer pass, south of Portland inlet.

411), also nearly oval and somewhat more symmetrical, besides being grooved around the lesser circumference has a groove running from near the middle of one side over the end almost to the groove on the other, and a short cross groove in the same end. The grooves, all of which were made by pecking, in both of these

¹ See Smith, *Archæological Investigations on the North Pacific Coast of America*, *Science*, N. S., April 14, 1899.

specimens appear to have been rather recently made. These objects are probably net-sinkers, of an archaic type, that have been made within recent times, perhaps within the last few years.

On the northeastern part of Bernie island, perhaps three miles northwestward from Port Simpson, is a shell-heap on which are an Indian house and a potato patch. It is near a natural arch rock. The heap is apparently not very high, perhaps not more than two feet. I visited it on August 1 and searched the surface but found no artifacts.

On the southern side of Compton island, in Steamer pass, just south of Portland inlet, is a Tsimshian village consisting of two or three houses (fig. 101). From the water the exposed soil of the garden appears to be the top of part of a shell-heap.

There is kitchen-midden material in the village at the Old eulichon fishing ground on the northern side of Nass river, a few miles above Kincolith. The river has cut into the bank in some places along here, and one may see strata deposited over snags, etc. In the cut section, however, I saw no artifacts, but exploration farther back from the river in the village would perhaps reveal important evidence in relation to the early inhabitants of this region and the migrations of the Tsimshian.

Along the beach near Wrangel, Alaska, between Mr Smith's house and the burial ground about two miles south of the town, below high-water mark, are a number of angular fragments of rock, bearing petroglyphs. These are rather faint and consisted of circles about six inches in diameter.

North of Wrangel, along the beach below high-water mark, from near the limit of the settlement here and there for about a mile to near the northern end of Wrangel island, may be seen petroglyphs on the fragments of beach rock (pl. XXVII, XXVIII, fig. 102). Some of these have been figured by Lieut. George T. Emmons.¹ A few of them consist of two concentric circles, others apparently were designed to represent the human face, and some of these tend to be square rather than circular. One apparently represents the finback whale. The plainest of the grooves probably do not exceed a quarter of an

¹ George T. Emmons, *Petroglyphs in Southeastern Alaska*, *American Anthropologist*, N. S., x, no. 2, 1908, figs. 53, 62.



PETROGLYPHS ON THE BEACH NORTH OF WRANGEL, ALASKA

inch in depth ; others are shallower, or the surface of the rock is weathered away so that they can scarcely be seen. Some of the pictures remind us of those at Yellow island in Baynes sound, near Comox, and at Nanaimo.¹ The type of art shown, while not so characteristic of the Northwest Coast as that expressed in paintings and in carvings in wood, is typical and can be recognized as from this region ; and I am of the opinion that these Wrangel petroglyphs are more typical of the Northwest Coast as a whole than are those near Comox and Nanaimo.



FIG. 102.—Petroglyph on the beach below high water north of Wrangel, Alaska.

At Yendestaque, about four miles above Haynes, on the military road following the Chilkat river, I saw kitchen-midden material to the east of the road, here close to the river. The earth is exposed, possibly by river cutting, along the base of the terrace on which the village stands.

Along the military road which follows the Chilkat river from Haynes, Alaska, through Klukwan to Porcupine, at a point below the eight-mile post, or less than eight miles above Haynes, I ob-

¹ Harlan I. Smith, *Archæology of the Gulf of Georgia and Puget Sound, Memoirs of the Jensep North Pacific Expedition*, vol. II, p. 6, fig. 115, also pl. x, and pl. XII, 1.

served a very thin layer of shell-heap material beneath about a foot of blackish soil. This was immediately to the east of the road, which at that point is about as close to the river as it could be built. Projecting from this heap was seen the top fragment of a large barbed harpoon point made of bone. The point (no. 16.1-414) is nearly oval in cross section and the three barbs are deeply undercut.

AMERICAN MUSEUM OF NATURAL HISTORY
NEW YORK CITY



NOTES ON PENOBSCOT HOUSES

By W. C. ORCHARD

DURING the past summer the writer, in the interest of the American Museum of Natural History, made a brief visit to the Penobscot Indians on Oldtown island, Maine, where some data were collected with reference to primitive architecture. Unfortunately, at the time of this visit a large majority of the Indians were away attending to their summer trade in fancy basketry and Indian curios at the various resorts; in consequence, the information could not be verified to the fullest extent. Several of the older men were questioned, and their statements furnished sufficient basis for the construction of models of a conical and a square bark shelter, a detailed description of which may prove of interest. Features of a third type of bark house were lightly touched upon, but the information was too vague to be of scientific value. It is hoped that at some time in the near future this matter may be taken up again.

The conical bark shelter (fig. 103) is built usually about ten feet high and ten feet in diameter; the framework consists of two sets of poles, one set inside and one outside. The inner poles support the bark and the outer help to hold it in position.

Nine poles, about twelve feet long and three and one-half or four inches in diameter at the larger end, are used for the inner frame. Four of these are tied together at a point about two feet from the tips, laid in pairs, one pair on top of the other. A rope of cedar bark, or a thong, bound around the poles twice and tied with a common knot, is employed to hold them together.

To erect the lodge, the four poles tied together are stood up and spread apart, as shown in figure 104. Nos. 1, 2, 3, and 4 are the poles fastened together; 5 and 6 are two poles placed between 1 and 2 to form door posts; 7, 8, and 9, placed between 1 and 3, 3 and 4, 4 and 2, complete the circle of foundation poles. A short pole is tied between 5 and 6, about six feet from the ground, form-

ing a lintel. A hoop of some flexible wood is fastened to the inner side of the poles, about seven or seven and one-half feet from the



FIG. 103. — Conical bark house of the Penobscot.

ground, to give additional strength, also to support sticks laid across, upon which clothing, etc., are placed to dry.

The covering consists of a number of pieces of birch-bark about three feet and one-half wide and as long as the diameter of the tree will afford. The pieces are lapped and sewed together with split spruce-root, forming long strips which are fitted around the poles. The width of the bark is about one-third the height of the lodge, consequently three tiers are necessary to complete the covering. The two lower tiers are made in two sections each, to facilitate handling for transportation. One section suffices for the upper tier. The pieces of bark are so fitted and trimmed that all the seams are vertical. The covering of the poles is effected by commencing with a section of the lower tier at one of the door-posts. The end of the bark strip is turned around the pole and fastened by means of two

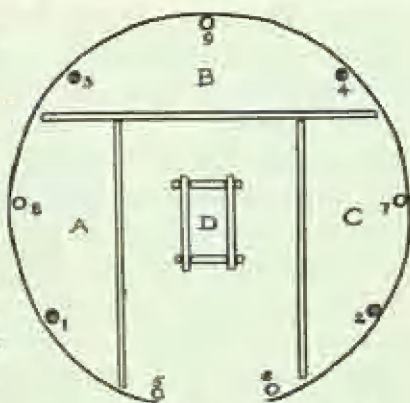


FIG. 104.—Plan of Penobscot dwelling.

or three strings of split spruce-root, passed through from the front, round the pole, and out to the front again and tied. The strip is then stretched around to the middle pole at the back (no. 9) and fastened through the top edge with a spruce-root string which is thrust through the bark, around the pole, and tied with a common knot. The string does not pass through the bark a second time, but is led back to the starting point over the edge. A similar fastening is made at each pole. The operation is repeated on the opposite side, with the end of the second section overlapping the end of the first at the back. The second tier is put on in the same way, the lower edge being allowed to overlap the first tier. The third or upper tier is started from the middle pole at the back, fastened through the upper edge, and is not turned around the pole as is done with the bark at the door-posts. The strip is carried around till the two ends overlap at the starting point, and a fastening is made at each pole, as with the lower tiers. To reach to the upper edge of this tier, any convenient article that is high enough and can be used to elevate the person building the house, is taken inside and the fasten-

ing completed there. Some of the width is taken up by the longitudinal lapping, which leaves sufficient opening between the top edge of the bark and the intersection of the poles for a smoke-hole.

The outside poles, cut about ten feet long, are then put in position, one opposite each pole inside. They are secured by sharpening the lower ends and driving them into the ground a few inches, and by tying the upper ends to the corresponding poles inside, just above the edge of the top tier of bark.

A door is made of a tanned moose-hide, laced to two poles, one at the upper and one at the lower end, the upper end being tied through the bark to the lintel. In rainy or windy weather, the lower end is fastened by means of a thong, or a cedar-bark rope, to the nearest pole to the door opening, or to small stakes driven into the ground close to the wall of the tent.

The door of the lodge faces toward the south or west, according to the surroundings.

The interior furnishings consist of beds for sleeping or lounging, and a fireplace. The beds are made of boughs of spruce or fir, or of any accessible soft boughs, covered with tanned skins kept in place by poles laid along the spaces allotted for that purpose on the ground. The space marked *A* is usually occupied by the owner; *B* is the place of honor, and *C* is assigned for ordinary guests. *D*, the fireplace, consists of four logs, two of which are about two feet long and the others about fifteen inches. The short logs are laid across the rectangular space formed by the poles, which keep the bedding material within bounds; the longer ones are laid lengthwise of the space and on top of the shorter poles, forming a framework which keeps the fire from scattering. The cooking-pots are suspended over the fire by means of two forked sticks, one driven into the ground at each end of the fireplace. Resting in the forks, a cross stick supports the pot-hangers, which are made from a twisted withe with a loop at one end to slide along the cross stick, while at the opposite end there is a crotch in which the pots are hung. A stone fireplace built outside of the wigwam for use in hot weather consists of a rectangular space enclosed on three sides by a stone wall about two feet high. The approximate size of the enclosure is four feet by eighteen inches, one long side of the space being left

open. The pots and kettles are suspended in the same manner as those inside the wigwam.

For more permanent use than the circular lodge, and also for better protection from the cold in winter, a square wigwam was erected (fig. 105). The lower part of such a structure consisted of four or five



FIG. 105.—Square house of the Penobscot.

tiers of logs, built up in the usual method employed for log cabins, the upper part consisting of a roof of birch-bark supported by poles. The minimum size of the wigwam was ten feet square and ten feet high at the apex, and larger according to the number of persons to be accommodated.

The log structure was built from three to four feet high, and on the side facing the warmest quarter, sections of two or three of the upper logs were cut out to make an opening for the door, from two and a half to three feet wide, the lower logs being left entire to keep snow from drifting in. The roof consisted of four main poles about

twelve feet long, tied together in the same manner as the poles for a circular lodge. The poles were spread apart, one being brought to each corner of the log structure, notched into the intersections, and tied with spruce-root or cedar-bark cords.

At the opening left for the door, two poles were notched into the ends of the logs and carried up to the point where the main poles crossed, with a short pole for a lintel tied across, about six feet from the ground. The three remaining sides were filled in with poles, one from the center of the log to the apex, and the spaces on either side with shorter poles, at right angles to the logs, reaching to the main pole and tied at that point with spruce-root or cedar-bark cord. The birch-bark covering was fitted and laid on in tiers, the upper overlapping the lower, and tied to the supporting poles in the manner described for the circular lodge. Outside poles were used to hold the bark more securely.

The arrangement of bedding and the fireplace also corresponded with that of the circular lodge.

The crevices between the logs and between the bark and the top of the log structure were packed tightly with moss, to keep out the cold winds, and for further protection from cold the walls were banked outside with moss and leaves, covered with earth. The usual moose-hide door and method of fastening were employed.

AMERICAN MUSEUM OF NATURAL HISTORY
NEW YORK CITY.

ABORIGINAL REMAINS IN THE CHAMPLAIN VALLEY

By G. H. PERKINS

ALTHOUGH all the objects described and figured on the following pages were collected on the eastern side of the Champlain valley and might be considered as representing the archeology of western Vermont, nevertheless they also accurately exhibit the usual specimens collected on the opposite side of Lake Champlain, for, while some minor differences may perhaps be discovered, as a whole, collections gathered on either side of the lake are practically identical. This is not true if we go too far from Lake Champlain. East of the Green mountains or west of the Adirondacks, things are not the same, and the Indian implements, etc., are more distinctly Algonquian on the one hand and Iroquoian on the other. In the Champlain valley itself the objects found appear to be more characteristically Iroquois than Algonquian, but still there is in some degree a mixture of the work of both these peoples.

It is doubtful if there were long occupied, still less permanent, settlements on either shore of Lake Champlain or very near it for many years before the advent of the European. The whole region appears to have been a great hunting ground, and the lake itself a thoroughfare for centuries, and the Iroquois seem to have dominated the area more than others. So far as Vermont is concerned, there was probably alternation, now Algonquian and now Iroquois, the former being the original possessors of the land, then for more than a century from 1540, or somewhat earlier, to 1640 the Iroquois held it, and then after 1640 the Algonquians in some way regained possession and held it until the white man finally took it for his own.

While various objects of aboriginal manufacture are still found from time to time, they are becoming rare, and such collections as that now in the Museum of the University of Vermont, which in-

cludes about ten thousand specimens from western Vermont and that equally important gathered by Dr D. S. Kellogg on the west side of the valley, can no longer be obtained. Occasionally, however, a valuable find is made, as in the case of one of the jars shown on plate xxxvi and most of the bone objects on plate xxxiv, which were collected at what appears to have been a much-used camp discovered a few years ago.

Although for the greater part not very unlike such specimens found elsewhere in the United States, it may not be without interest that we examine some of the more characteristic objects that have been found in the immediate vicinity of Lake Champlain.

Archeologists will not fail to note the close resemblance of many of the specimens illustrated on the accompanying plates to those figured on the plates which illustrate Dr Beauchamp's *Bulletins on the Aboriginal Implements, etc., of New York*. There are, as will be noticed later, some very marked differences between our collections and those described in the *New York Bulletins*, but there are also many noticeable resemblances.

It is not intended to present in this paper a complete account of the Indian objects from Champlain valley, but in this and in an article to follow most of those which are at all characteristic of the region will be shown.

CHIPPED OBJECTS

Chipped points made from some kind of quartz, quartzite, hornstone, or other highly silicious material are here, as everywhere, the most abundant examples of aboriginal work. While localities have been found in which there were great quantities of flakes, chips, etc., showing the site of an ancient workshop, no large deposits or caches of flaked implements have ever been brought to light. Nor are the objects found in this region so large on the whole as those of the West and South, or at least none are found of as large proportions as are the great chipped implements that have been discovered elsewhere. And the same might be said of most classes of stone objects. As will be seen, a very few comparatively large leaf-shaped objects have been found in this region, but they are exceedingly rare.

With no intention of presenting our finest or rarest specimens,



STONE IMPLEMENTS FROM CHAMPLAIN VALLEY. (ABOUT ONE-HALF ACTUAL SIZE)



STONE IMPLEMENTS FROM CHAMPLAIN VALLEY. (SIZE 9:4)

but rather such as may be considered typical of the average of our collections, I have selected and photographed those shown on the accompanying plates.

When examining these plates it should always be borne in mind that all the figures are reduced, usually more than half. The series at the top of plate xxix, the simple, unstemmed and unbarbed triangles, are examples of what is by far our most common form. While these triangular points may be made of a great variety of materials, by far the larger part are made of a gray quartzite which occurs in ledges in different parts of northern Vermont. This quartzite is always gray, but the shade may vary from light, translucent, and rather pretty stone to that which is very dark, or it may sometimes be of a yellowish tinge. This latter does not seem to have been very much liked by the arrowpoint makers, for we find only very rude and clumsy specimens made from it.

Though used more than any other material, for the smaller specimens, this was only rarely used in the making of large pieces. Other forms of the smaller points, knives, etc., are also, though less often, made from the common quartzite; but the stemmed and barbed specimens are more often made from darker and more compact hornstone or some such material. For some of these, white or clear quartz was used; but for some reason these were far less often chosen than in southern New England. White quartz is common in large masses in the ledges not far east of Lake Champlain, but it was rarely chosen for any sort of implement.

Plate xxx shows a few of our largest chipped specimens. They are all well made, though not of the best. The four specimens at the top of the plate show a type that is quite abundant, and endlessly varied in form and material. Most are slender, though some are wider, like that at the right, and a few are broadly triangular. Some of the finer and more slender forms are six or even eight inches long and only an inch or a little more in width.

The long implement at the bottom of the plate is made of the common gray quartzite. It has fairly well finished edges, and is ten inches long by two inches in greatest width. The leaf-shaped implement—knife or spade—above it is a very rare form in this

region. The specimen figured is eight inches and a half long and four inches wide. One or two similar specimens are still larger than that figured.

Scrapers of many different shapes are common among our chipped specimens. Several of these are shown on plate xxxi. The sharply beveled edge is so characteristic of this class of implements that there is little difficulty in recognizing them whatever may be the shape.

The small, triangular forms seen at the top of plate xxxi are perhaps more abundant than other forms in the Champlain valley. Some of these are small, most of not large size, but now and then one of large proportions was made. Following down the left side of the plate, across the bottom and up on the right side, one may see examples of our most usual forms of scrapers. It is quite possible that the circular objects, such as are shown at the lower right corner, were not always scrapers, but sometimes were used in games, for there are accounts by early writers of games which the aborigines played in which such discs of stone were used. Many other forms are found among our scrapers. Now and then one appears to have been made either from an old arrowpoint, one angle of which was broken off and made into a scraper, or else the scraper edge was made at first and the implement shaped like some of the points. In the triangular points the base was sometimes beveled to be useful as a scraper. In other cases the portion remaining after the pointed end had broken off was beveled to a scraper edge.

This repairing or remaking old, broken, or worn implements in order that they might serve in other capacity is not uncommon in all classes of these objects.

The drills shown on plate xxxi will be readily recognized by their peculiar form. Others less slender than those shown on the plate are found, and also those that are ruder and more clumsy; but the figures show the more common specimens. Drills are spoken of by many writers as rare in the various localities under consideration, but in the Champlain valley they are quite abundant. As noticed, some are rude, but others are among the very best examples we have of skilful chipping — such specimens, for example, as those shown near the center of the plate. The longest of these measures our inches, and the one at the right is nearly as long.



STONE IMPLEMENTS FROM CHAMPLAIN VALLEY. (ONE-HALF ACTUAL SIZE)

The triangular points which have been mentioned previously lend themselves easily to transformation into drills, and it is not uncommon to find what at first appears to be simply an ordinary triangular point which when more closely examined is found to be a drill, one of the angles having been fashioned to serve as a boring point. It is difficult to understand how some of the very slender drills could have resisted efficient use. It seems likely that they would break if much pressure were put upon them; nevertheless, they have evidently been considerably used, as the polished end shows. Very often these triangular drills are longer at the boring point than at the others.

In addition to the various chipped implements mentioned above, there are a few specimens made in this way that belong to classes usually made by hammering and grinding. On plate xxxiii, at the bottom, is shown a finely made celt of hornstone. The surface appears to have been rubbed somewhat after the chipping or flaking had been completed. The edge is plainly rubbed. Altogether this is the best example of this kind of chipping that has been found in this region, and, as the figure shows, it is a fine specimen. Rather large axes flaked from more or less flat plates of quartz of the form of the common grooved axes occur now and then. In place of the groove, these are notched on each edge. They are very rude.

SLATE KNIVES

Although resembling the chipped points or knives in their general form, the four smooth objects shown at the lower right portion of plate xxix are very different in material, and they were ground, not chipped.

These represent a class of implements which are found on both sides of Lake Champlain. They are all made from slate, red, purple, or drab, such as occurs abundantly in this region. The use of these objects is rather problematical. They are almost always well made; the surface is smooth and almost polished, the edges are sharp and do not indicate that the tool had been severely treated. And yet the material is not very hard, and is very brittle, and some of the specimens (knives?) are slender. One is nine inches long and an inch and a half at the widest part; it would easily break,

and there are other specimens nearly as fragile. The longest shown on plate xxix measures four inches and a half. The greater number are three or four inches long and of varying width. All are stemmed, and usually the stem is notched on each side. In the collection at Burlington there are more than thirty of these objects, and a smaller number in the State collection at Montpelier.

Dr Beauchamp has published a plate¹ on which are figured ten of these slate knives, and the following statement of their distribution is given (page 65): "In some parts of Canada the . . . knives are about as common as in New York, being most abundant on both sides of Lake Ontario. They have not been reported east of Lake Champlain, except in its immediate vicinity, with the exception of one in Maine, nor do they reach more than halfway southward to the Pennsylvania line. In fact here they are rarely found far away from the larger lakes and streams tributary to the St. Lawrence."

GOUGES

Although by no means confined to the Champlain valley, the gouges may be regarded as very characteristic of this region, for unless I am in error, they are found here more abundantly and in greater variety than elsewhere.

None of our specimens, not even the best "banner stones," are more beautifully finished or of handsomer material than some of the best of our gouges. As is true of other objects, there are all grades of rudeness or elegance in these. As a class, however, the gouges are more carefully shaped and more perfectly finished than most other implements. Indeed, some are so finely finished, of such attractive material, and so apparently unused that it is very difficult to conjecture for what purpose they were made. One of these is shown in the longest on plate xxxii. This is as perfect in all respects except a recent break at the top, as when it left the maker. If this, and others like it, were of hard stone, it would be more easy to think of some use to which they could have been put. They are of only moderately hard talcose slate, often of a greenish drab color, and could not be used for any hard work without very evi-

¹ *Bulletin 18, N. Y. State Museum.*



STONE OBJECTS FROM CHAMPLAIN VALLEY. (LESS THAN ONE-HALF ACTUAL SIZE)

dent abrasion, and yet most of them do not show anything of the sort. The surface is not only smooth, but well polished, and the edge is sharp.

While, as has been noticed, great variety occurs in the shape of the gouges in general, these are long, slender, flat or slightly concave on the upper side and strongly carinate on the other, so that a cross-section has the form of a narrow, sharply pointed arch. The groove may, as in the figure, extend throughout the whole length, or only part way. The specimen figured is fourteen inches and a half long and rather more than an inch and a half across the edge. There are other gouges that are several inches longer, but by far the larger number are much shorter. Perhaps six or eight inches may be taken as the average length of the gouges of this region.

These finer examples are usually longer. Evidently great care and labor were expended in fashioning such gouges as the long one figured, and they must have been made for some important purpose, but what that purpose was I cannot imagine. Diligent search in various old accounts which early explorers have left us has failed to bring any satisfactory explanation of these singular objects.

But however these were used, there can be no doubt as to the use of most of the gouges. By far the larger portion are of hard stone, well fitted to endure rough service. As the figures on plate xxxii show, the groove is sometimes short and shallow, sometimes deep and long. In a few it is triangular, as in the middle specimen on the left. This also is an example of a sort of chisel-gouge. In these, of which we have a number of specimens, one end is hollowed and curved to form a regular gouge edge, while the other is straight and beveled to form a chisel. More rarely both ends are hollowed, and, of course, in these the groove runs from end to end. As to the use for which the gouges were usually intended, there have been numerous suggestions, but none is entirely satisfactory.

In one of his accounts Champlain speaks of seeing Indians on the coast of Maine making canoes, dug-outs, by charring a properly prepared log and scraping out the burned portions, then charring again, and thus by alternate charring and scraping they accomplished the desired end. Water poured over portions of the wood that were

to be retained confined the burning, which was done with hot stones, to the part to be hollowed.¹

No theory of the use of these gouges so well explains the excellent condition in which most of them are found as does the one that they were used chiefly in excavating or cutting where wood had been more or less charred. Among considerably more than a hundred of these specimens that have been found in this region, by far the greater number do not show much, if any, effect of use.

CELTS

Plate xxxiii shows a few of the many forms of celts that have been found in the Champlain valley. As a class ruder than the gouges, some are as well finished as they could be, and are really elegant specimens. Generally of hard material and evidently made for service rather than for ornament, they form an interesting and conspicuous part of our collections.

I do not think that the celts of this region exhibit any particular characters which can distinguish them from those of other localities. We have none so large as those that have been found elsewhere. Rarely does one exceed a foot in length, and the majority are not more than five to eight inches long. Some are very small, in length not more than two or three inches. Some of these little celts are finely made and of various shapes. While most of these implements are at least fairly well made, there are some that are very coarse and clumsy. These are usually made from a large quartz pebble.

BONE IMPLEMENTS

Stone objects and bits of earthenware have been collected in the Champlain valley for many years, but articles made of bone have been exceedingly rare, especially on the eastern side of the lake.

Some years ago the writer mentioned² two or three specimens of this kind. Up to that time these were all that had been found in Vermont, and although more had been collected on the western side of the lake the entire number was very small.

¹ For further account of these implements, see the article by the writer in *American Naturalist*, xv, 425.

² *Science*, Oct. 7, 1892.



STONE IMPLEMENTS FROM CHAMPLAIN VALLEY. (LESS THAN ONE-HALF ACTUAL SIZE)

Within a few years was found what appears to have been the site of a long-occupied camp. The site is on the bank of a large creek that flows into Malletts bay, one of the largest of the numerous deep indentations found here and there along both shores of Lake Champlain. A camp here would have been admirably situated, being in the midst of what must have been excellent hunting and fishing, and absolutely invisible from not only the main lake, but from most parts of the bay. The bank is composed mostly of a stiff clay, and in this many bone implements as well as many more scattered bones of bear, deer, elk, wolf, beaver, etc., have been found as the reward of very careful and diligent search by Mr D. B. Griffin, who for years has collected them. All of the bone specimens figured on plate xxxiv, except that at the bottom and one just above the shell beads, were obtained at this place within two or three years. With the bone objects there have been found many fragments of earthenware, mostly suggestive of Iroquoian origin, and numerous stone implements. One nearly entire, though much decayed human skeleton, and bones from others, were also found. It is impossible to doubt that the Indians of this region used bone freely, but it seems to have been for the greater part unable to withstand exposure, and therefore to have disappeared.

The locality referred to is the only one in Vermont from which more than one or two bone objects have been obtained.

A glance at the plate will show that most of the objects figured are very similar to those found elsewhere and in widely distant localities. Indeed the world over, the simpler forms of bone implements, both prehistoric and recent, are very much the same as to form. Still there are often at least a few specimens found in each locality that are peculiar.

The teeth shown at the top of the plate, and others not figured, are of this sort. Their shape is somewhat unlike any that I have seen from other places. The two canines from a bear are worked with considerable care to sharp edges. As the figures show, one tooth is worked obliquely about half-way between the point and the root, while the other is worked throughout its length. Both are well polished, and finished with care. The beaver incisor below is not as well shown as it might be, but close examination of the

reduced figure will reveal oblique working similar to that in the first.

Other teeth, especially beaver incisors, were found, and one of these latter was worked so that only half remained, as in the second bear's tooth. Numerous unworked teeth of bear and beaver, as well as entire jaws of several species of mammals, were obtained. The originals of these, as of others on this plate, are more than twice as large as the figures. Of the three points at the right of the teeth the first and third are made from tines from deer horn. The middle one is part of the humerus of some bird.

The specimen at the upper right corner is unique, and, like some of the points, may have been used for decorating pottery. As the figure shows, the upper end is broken; the lower is cut to form three points separated by curved edges. The barbed point below the beaver tooth and that at the extreme right remind one of the common fishing spears of the Eskimo. They are made from one of the long-bones of the deer, — ulna, humerus, or some such bone, — as also are the two flat points. All are smooth and well made. Many tines from deer antlers are found showing but little evidence of being worked, but careful examination reveals some notching or cutting, enough to prove that they are not merely chance fragments.

Near Swanton, in the northern part of the Champlain valley, many very interesting and often peculiar specimens have been found. At this place the singular fragment shown at the bottom of plate xxxiv was obtained. At each end it is somewhat rounded, and the lower edge seems to be intact; but the upper is so badly broken that it is impossible to determine the original form. Still less can the use for which this specimen was made be known or conjectured. It evidently was intended to be ornamental, and perhaps this was all. The original is three inches and a half long, and about three-fourths of an inch at the widest part. The material is quite chalky, and appears to have been buried a long time.

Another very interesting specimen, found also in Swanton, is a bone mask. This appears to be of Indian origin, but it is not chalky, nor does it seem to be very ancient. Yet it resembles very



BONE IMPLEMENTS FROM CHAMPLAIN VALLEY. (ABOUT THREE-FOURTHS ACTUAL SIZE)

closely some of the bone and earthenware masks figured by Dr Beauchamp. The specimen is nearly an inch and a half long and rather less in width. It is cut from a piece of femur, and the medullary cavity is shown by a deep groove extending through the rear side. The face has a prominent nose, full lips, distinct eyes, and is well carved.

SHELL

Objects of shell are exceedingly rare here — only a few beads, most of them taken from some very ancient graves in Swanton, and which have been described elsewhere.¹ Two of these are figured at the lower right corner of plate xxxiv. About a dozen of these, some larger than those figured, have been collected, and a large number of the little *Marginella comiodalis* which were bored lengthwise so that they could be strung. Besides these a number of smaller cylindrical shell beads have been found.

These beads all are made from shells not found so far north. Additional evidence of Southern trade is furnished by several pieces of coral. These are straight bits of a branch from the common *Madrepora*, a few inches long and rubbed smooth. Presumably these were simply ornaments.

EARTHENWARE

During the last few years notable additions have been made to our collections of earthenware. Of the three entire jars which are in the University Museum at Burlington, and which are all the Vermont jars that have been preserved, only one has been obtained recently; the other two were found, as will be noticed later, more than seventy years ago. But many fragments, some of them large, — in a few cases forming, when brought together, nearly the whole of the jars from which they came, — have been discovered in the sands and clays of this region, and mostly in the immediate neighborhood of the lake. The material of which our pottery was made — a mixture, and often a rather coarse mixture, of quartz and feldspar with sometimes little flakes of mica held together by more or less clay — rendered it very liable to destruction when buried and subjected to

¹ *Proc. A. A. S.*, Portland Meeting, 1873, p. 76.

moisture, and especially to freezing and thawing. The earthenware of western Vermont and eastern New York is practically identical in the patterns in which the jars are adorned and also in the general form and material. The simple, globular form seen in the lower part of those figured on plate xxxvi is universal. As the illustration shows, the upper part may be circular or compressed, as in the smaller of the jars figured, into a rectangular form, or, as in another, a hexagon, or even more elaborately shaped as was evidently the case in the small jar a portion of which is shown in the left portion of figure *a*, plate xxxvi. Many are contracted, as in the smallest of the three jars and as shown by several of the fragments of rims on the same plate, so that a neck is formed, varying much in different specimens. This may have been designed to facilitate the attachment of a band by which the jar could be hung, and holes found more rarely in some jars, such as those shown in the fragment on which may be indistinctly seen lettering in white, were probably made for the same purpose.

While the earthenware of that part of New York adjoining Lake Champlain is like that of western Vermont, the pottery found in most parts of the state, that is, west of the Adirondacks, presents important differences. In the Champlain valley there is entire absence of any animal or human effigy, while these are not uncommon in the region west of the Adirondacks.

Dr Beauchamp says that such faces modeled in clay and attached to the jars are not uncommon in the pottery of the Mohawk and the Onondaga, but they are less common in that of the Seneca. No specimens ornamented with figures in relief are found here. As plates xxxv and xxxvi show, all our pottery is decorated with sunken or incised lines, etc. Lines, arranged in all sorts of grouping and in every direction, form the most common ornament; but dots, circles, rings, crescents, zigzags, triangles, squares, etc., in well-nigh endless variety, are associated with lines or groups of lines. All this may be seen much better by examining the figures than can be described by any written account.

The two plates here given might easily be multiplied many times without exhausting the great number of varieties of pattern found on the potsherds of this region. Many of our jars, as is evident from the fragments that remain, were marked or stamped over most



POTTERY FRAGMENTS FROM CHAMPLAIN VALLEY

of the upper half, and some even on the inside, sometimes a third of the surface from the rim down, but this is unusual. Most, if decorated at all inside, are marked only about the upper edge. By far the larger number, however, are ornamented only about the outside of the rim, as in the two jars, *b* and *c*, on plate xxxvi. Figure *a* of this plate shows fragments of twelve jars, and from these a fairly good understanding of the various patterns may be gained. Of these the pieces in the foreground are probably Iroquois, while the four in the background are more likely to be Algonquian. Still it may be that all are Iroquoian.

It is a fortunate fact that the most highly ornamented portion of our jars is also that which was thicker and more enduring than the rest, so that we have a much more complete knowledge of the artistic skill of their makers than would otherwise be possible.

Naturally the color and hardness of the earthenware depended on the length and heat of the burning. All are black inside, but the outside varies considerably, being drab, dark red, black or gray, light or dark brown, etc. Nowhere is there evidence that any color was used in decoration.

While much of the decoration was evidently made by the use of blunt points, very likely of bone such as the implements figured on plate xxxiv, it is also evident that some of the impressions were made with stamps.

As compared with pottery from the mounds of the Mississippi valley and from the Southwest, that found in the Champlain valley is most of it coarse and often rude.

The granite, quartz, or whatever stone was used, mixed with clay, was not always crushed to extreme fineness, but angular fragments are plainly seen in many broken bits. Sometimes the paste was all of it very fine, and usually, though not invariably, the jar was coated both outside and inside with a fine clay, producing a smooth surface.

Our Eastern pottery is in most examples much thicker and less hard than the Western; nor do we find so great variety in shape. Even if the Algonquian and Iroquois women had been able to fashion jars as thin and as varied in form as were the women of the mound-builders and the Pueblos, they could not have decorated their work

as did the latter, for the often deep and boldly drawn lines, or whatever figures were employed, could not have been placed on any thin-walled vessels without making them too fragile.

As will be noticed, plate xxxv shows fragments which are mostly from the rims of various jars. These figures, with one or two exceptions, give the more common varieties found here. All are reduced to somewhat less than half the size of the originals (exactly as 4:9). Figure *a* of plate xxxvi shows large fragments from the rims of twelve jars that have recently been unearthed. They are reduced to one-fifth the size of the originals. In addition to what has been said of these, it may be well to notice the forms of several. That at the extreme left, and the one at the corner in the foreground on the right, in form and decoration furnish examples of square-topped jars that appear to have been much liked by the former occupants of this region, for among our fragments those of this shape are quite common, and they are almost always decorated with obliquely arranged lines and the annular figures shown in two of the bits on plate xxxv, and especially on the nearly entire jar shown on plate xxxvi. A very unusual form of rim is shown in what was evidently one of the smaller jars, the second from the left in figure *a* of plate xxxvi. In this vessel the rim was oval at the top, the shorter diameter being four and three-fourths inches across, and the longer six inches at least. At each end of the long diameter the rim is pushed in, as shown in the figure; that is, it was probably so, for only half of the entire rim is present. Presumably, however, the lacking side was like that shown.

Nearly all the fragments of each of the jars represented by the three large fragments at the back of figure *a* were collected, but the edges were too imperfect to admit of restoration.

As has been mentioned, the three entire jars shown on plate xxxvi are all that now exist of those found in Vermont. Only one of these, the smaller and more highly ornamented one, was found near Lake Champlain. The other two were obtained in Bolton, a town situated east of the lake, and the jars were found not together although in the same town, about twenty miles east from the shore.¹ The smaller and finer jar was found not more than

¹ It should be noted that the jars shown in figures *b* and *c* are really much larger than that represented by *d*, but in the plate this latter is reduced less, and therefore the figure is larger.



POTTERY FROM CHAMPLAIN VALLEY

two or three miles east of the lake and about six miles north of Burlington. It was unearthed in 1885 and ever since has been one of the most interesting objects in the Museum at Burlington. The present writer described and figured this specimen some years ago, and figures of it have appeared in several works; but as all of these were from rather unsatisfactory pen drawings, it has been thought that an illustration from a direct photograph would not be superfluous.

The vessel is shown about one-fourth size. As it stands the height is seven and a half inches; inside diameter at the top, five inches; circumference at the largest part, twenty-seven inches. When filled it holds nine pints. No other entire jar so elaborately ornamented as this has been found in New England, although, as several of the fragments show, similarly elaborate jars were not extremely rare in the Champlain valley. At least the squaring of the rim does not seem uncommon, but probably few were squared below the neck as in this example.

The larger jar shown on plate xxxvi, which has about the six-sided rim the same sort of arrangement of lines and circles, was found in 1895. It was partially uncovered, sheltered by a sort of cave formed by large fallen rocks in a woods away from the general route of travel. It is remarkable that so perfect a specimen should have remained so long undiscovered, even in the out-of-the-way place where it was hidden. Whatever may be the explanation of this, no one can doubt the genuineness of the jar. The figure shows this specimen about one-fourth full size. The original is ten inches high, nine inches across the rim, and thirty-seven inches in circumference at the largest part. Its capacity is twelve quarts. The hexagonal rim is unusual, but not unique, for fragments of five- and six-sided rims have sometimes been found.

The third jar shown was found about the same time as that first mentioned, but within a mile or so, as nearly as I can ascertain, of the second. It is not necessary to call attention to its obvious simplicity as compared with either of the others. It is of about the same size as that of the other Bolton jar, being nine inches and a half high, seven and a half across the rim, thirty-eight inches in greatest circumference, and holds nearly fourteen quarts.

Besides jars, pipes of earthenware are now and then found in this

region. These appear to be more common on the western than on the eastern side of Lake Champlain. They are usually of finer material and smoother surface than the jars, and either plain or very little ornamented. Some are straight, or nearly so, and flaring at the end. Others have the bowl at an angle with the stem, and resemble some of the modern pipes.

COPPER

As would be expected, copper articles are not common in the Champlain valley; yet quite a variety has been found, and a few are shown on plate xxxvii. In both the Vermont collections there are not more than twenty-five. The material in all cases is the native metal of Lake Superior, from which the objects were hammered into the desired forms.

In some localities lumps of copper have been found, but here only the well-wrought implements, etc., have occurred. Figures 1 and 2 of the plate show two examples of spear-points or knives. Almost all our specimens of this kind are flat on one side and beveled from a medium ridge on the other, as the figures show, opposite sides being seen. The length varies from two inches and a half to six inches. Several have a sort of socket like that shown in figure 2. Celts like those illustrated by figures 3 and 6 are occasionally obtained, and one of these, found at the mouth of Otter creek, is the largest copper specimen found in the Champlain valley. This is not figured, and is much larger than any of those shown on the plate, being eight inches long, more than two inches wide, and an inch thick at the back ridge. It weighs thirty-eight ounces.

The celt shown by figure 3 is four inches and a half long and weighs five ounces and a half. The other is about two-thirds as large.

The only copper gouge found here is that seen in figure 4. The original is finely patinated; it is six inches and a half long, an inch and a half wide, and weighs thirteen ounces.

Figure 5 illustrates a copper bar similar to several that have been found in old graves at Swanton. That shown is very nicely shaped and was probably an ornament.

Figure 7 is one of a dozen copper beads, made by rolling sheet copper into cylinders, as shown.



ABORIGINAL AND TRADE IMPLEMENTS OF IRON FROM CHAMPLAIN VALLEY



IRON

Although not aboriginal in origin, nor prehistoric in time, the implements used in trading with the Indians when Europeans first came into the Champlain valley and which soon largely displaced the laboriously fashioned and less efficient stone tools that for centuries had been the only aids the aborigines had in doing whatever tasks they undertook, are not without interest. A few of the more common forms are shown on plate XXXVII, figures 8, 9, 10. As will at once be seen, these are all different in form from similar tools in use later. Just how long these "trade axes" were used or why they were shaped as they are is not easily explained. Some of them are like those once used by the white men themselves, but many were evidently made expressly for the Indian trade. Here the most common form of trade axe is that shown in figure 8. Axes of this shape have been found in every part of this valley, and of sizes varying from those that were merely small hatchets to those measuring six or eight inches long. None have been found that are as heavy as the common axe of to-day. The forms with curved point on the back, as in figures 9 and 10, are much less common; and still more rare is the occasional specimen in which the back is fashioned into a pipe bowl, a form which in both ancient and modern times occurs in stone pipes, or rather "pipe-tomahawks."

In a subsequent article the writer hopes to consider other varieties of objects that have been collected in the Champlain valley, as pipes, ceremonial stones, plummet-stones, pestles, grooved axes, etc.

UNIVERSITY OF VERMONT
BURLINGTON, VERMONT

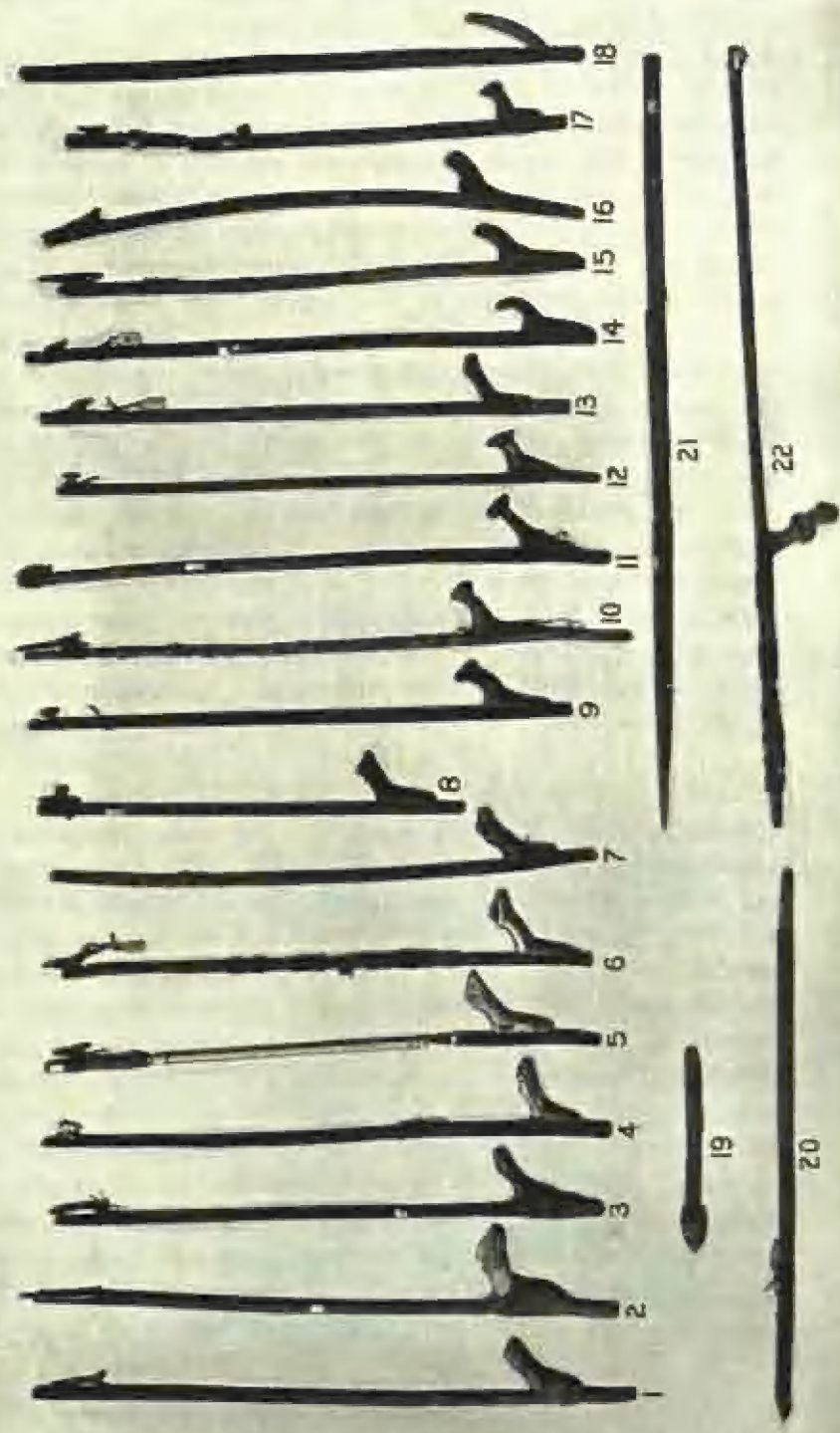
PERUVIAN THROWING-STICKS

By MAX UHLE

AMONG the recent acquisitions of the Museo de Historia Nacional in Lima is a group of ancient Peruvian throwing-sticks, of which I here present some photographs and a brief description.

Our positive knowledge of throwing-sticks from ancient Peru is of quite recent date. In *Kultur und Industrie* (1, pl. 25, fig. 30) was presented a throwing-stick from Guamo, near Riobamba in Ecuador, from the collection of W. Reiss. In 1888 the writer described and illustrated in *Archiv für Ethnographie* various stone hooks from Ecuador which were determined by him as being the rear hooks of ancient Ecuadorian throwing-sticks, an interpretation now fully confirmed. In a paper bearing the title "La Estolica en el Perú," published in the *Revista Historica* for 1908, the writer enumerated as many as nine Peruvian throwing-sticks, all but one of which were discovered by himself. Seven of these are in the museum of the University of California at San Francisco (four of which were unearthed in Trujillo, without the hooks; one came from Ancon, and two from Nieveria); one specimen is in the Gretzer collection in the Berlin Museum für Völkerkunde, and one in the Museo de Historia Nacional at Lima. The latter museum has since obtained five additional specimens from Nieveria, in the valley of Lima, one of which is here shown in plate xxxviii, and plate xxxix, 22. A series of eighteen throwing-sticks, most of them in an excellent state of preservation, were obtained from a single burial site on the lands of the hacienda Chaviña (about 15° 40' S. L.) on the southern coast of Peru. These are represented in the accompanying plates, figures 1 to 18.

From communications received from Mr W. Gretzer it appears that there is a second specimen in his collection at the Museum für Völkerkunde in Berlin, but it is not known whether it came from Pachacamac or from Ancon. One throwing-stick, obtained by



PERUVIAN THROWING-STICKS

Captain Berthon from the very ancient cemetery discovered by the writer at Nieveria, seems to have found its way to Paris. While in the year 1898 the only evidence of Peruvian throwing-sticks was that afforded by their representations on ancient pottery from the Chicama valley, there are now at our disposal thirty-four original specimens from this territory, in addition to a large number of hooks that formed parts of similar objects. The latter came from Ancon, Nieveria, Nazca, and Chaviña, and all are owned by the Museo Nacional of Peru.

In addition to these specimens there are presented in the same plate a number of parts of arrows from Chaviña (nos. 19 and 20), and an original arrow from Nieveria (no. 21). These were found with the throwing-sticks in the same cemeteries, and it may be safe to assume that they had been used in connection with the latter. The Museum possesses two arrows from Nieveria, several reed arrow-shafts of the same class and from similar arrows, dozens of wooden points provided with barbed hooks of many varieties. Some of the latter are decorated with carved faces: all of these came from Nieveria. The pieces with the barbed hooks closely resemble the general type of arrows used in South America east of the Andes.¹

The cemetery of Chaviña, south of Nazca and Lomas, belongs to a region a thorough exploration of which has only recently been begun by the writer. Its cultural position proved to be similar to that of Ica and Nazca. We find here represented the earliest type of the Ica-Nazca civilization. There are very fine tapestries showing patterns in the style of the Tiahuanaco gateway, the same as in Ica-Nazca and more numerous than in central Peru, a fact quite in harmony with the southern origin of the Tiahuanaco culture. Also the more recent cultures of the Ica-Nazca region frequently overlap those of the former. Finally, we likewise see here the culture of the Incas represented in fine and characteristic objects.

The eighteen throwing-sticks from Chaviña were all obtained in a burial ground situated near the sea and belonging to the Epigone period. Here, too, was procured a large variety of valuable fabrics

¹Concerning the area of distribution of the throwing-stick and the relative ages of the Peruvian *estolitos*, see the writer's paper in *Revista Histórica*, 1908, vol. II, p. 118.

showing designs in the style of Tiahuanaco, and a series of well prepared and richly ornamented mummy bales. A second burial ground, situated a mile above, in the same valley, shows the same characteristics as the preceding in every respect, save that not a single throwing-stick was found. A possible reason for this lack may be that the throwing-sticks were used for fishing, and thus are not likely to be found farther inland. In Arica fish were shot with arrows.¹ In 1896 the writer saw in Lomas, 18 miles north of Chaviña, a native armed with a harpoon shooting "corvinas" in the shallow shore water. These harpoons may still be found in some of the houses of this little port. Instead of the stone point of ancient times they are now tipped with points of iron. Whether these harpoons were formerly projected by means of throwing-sticks (as among the Eskimo) instead of being thrown by hand as at present, we are not able to say.

The throwing-sticks from Chaviña measure from 44 to 53 centimeters, similar to the four in the University of California, which came from the Chinu district (39.5 cm. to 59 cm.). Exceptions are shown in figure 8 (36 cm.), and figure 5, the middle part of which is wanting. Various kinds of wood were used: those shown in figures 4 and 12 are made of "chonta" (*Astrocaryum* sp.); figure 10 has a shaft made of a thin piece of bone which has not been determined zoologically.

The hooks at the butt end are inserted into small grooves.² They are of varying shapes; most are of copper, some are of bone, one of the tooth or tusk of a sea-mammal, and in one specimen (fig. 13) the hook is made of wood. In some instances may still be seen the original manner of fastening the hooks with cotton thread or with sinew.

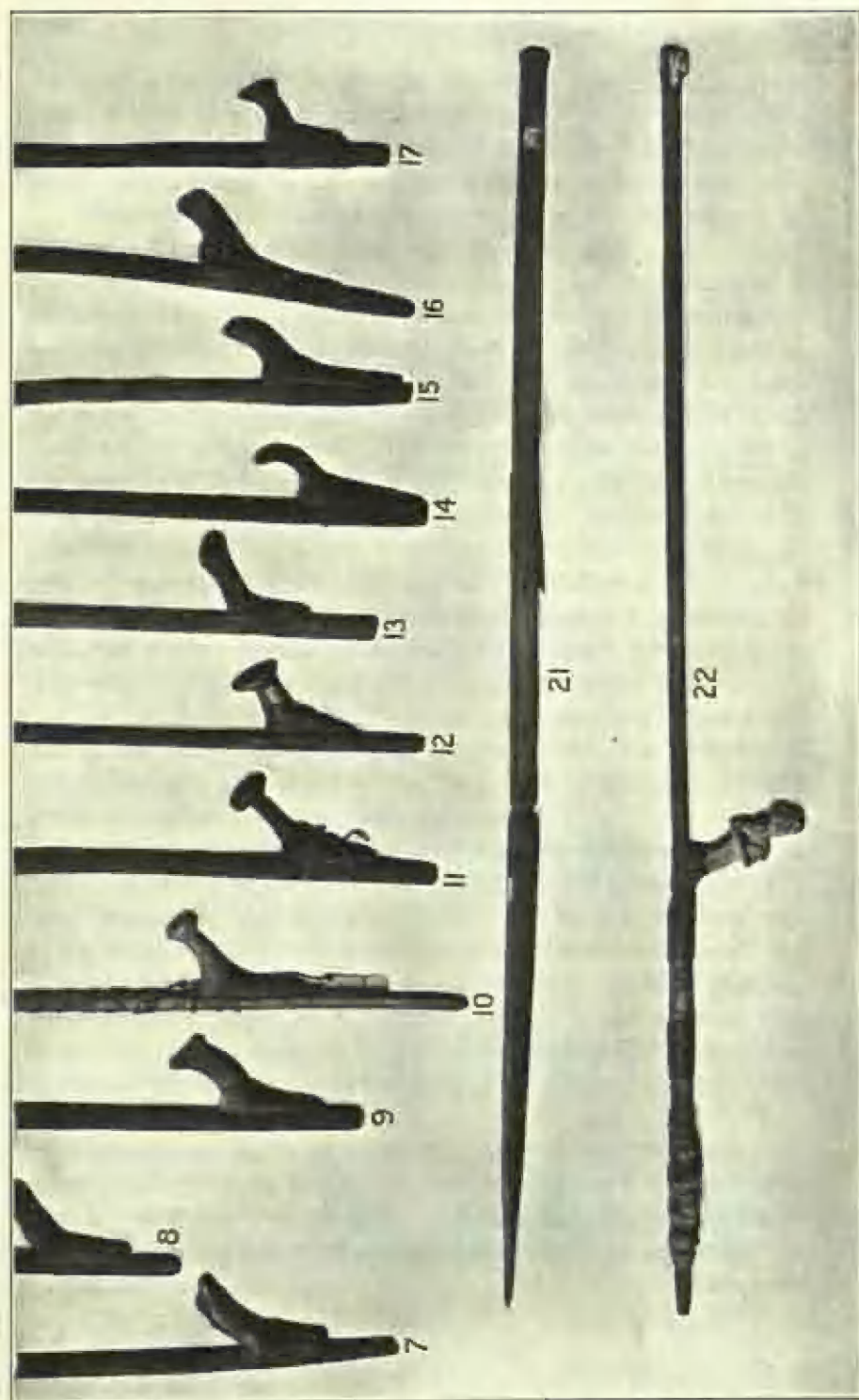
A hook with its prong turned backward is lashed to the forward end, which is usually a little thicker than the rest.³ This hook is generally made of tooth; in some cases it is of bone.

The form of the hook varies. In about half the specimens it is ornamented with a carved face and often was inlaid with bits of shell.

¹ Cf. *Kultur u. Industrie*, 1, pl. 20, figs. 31-32, and pl. 25, fig. 22.

² See the article in *Revista Historica*, pl. III, fig. 2, from Trujillo-Moche.

³ Cf. *Kultur u. Industrie*, 1, pl. 25, fig. 30; *Revista Historica*, loc. cit., pl. IV, fig. 1; also numerous scenes depicted upon pottery from Nazca, Chimbote, and Trujillo.



PERUVIAN THROWING-STICKS (DETAIL)

In figure 9 the hook is in the form of a bird's head, in other specimens it ends in a knob, and in rare cases it is quite plain. The manner of fastening the forward hook is similar to that of the hook at the butt end, and its axis is about the same as that of the latter.

Various specimens are decorated with rings of copper (figs. 5, 6, 10, and 17) or a sheath-like cap upon the butt end (fig. 5).

These throwing-sticks undoubtedly represent the continuation of the ancient throwing-sticks of Nazca, known principally through pictures upon pottery. A bone hook of a throwing-stick from an ancient cemetery at Nazca is in the collection of the Museo Nacional; its shape and ornamentation are identical with those of the specimens shown in figures 1-8. The throwing-sticks from Moche in the museum of the University of California are evidently descended from the same type. As the original culture of Trujillo was closely related to that of Nazca, and as the pictures of throwing-sticks appearing upon the Trujillo pottery of that period show a form identical with those of Nazca, it can safely be assumed that the throwing-sticks of a more recent period are derived from this early type. The measurements also suggest a common derivation.

The two foreshafts from Chaviña (figs. 19 and 20) are 12.5 cm. and 41 cm. long (without the peg at the rear end), and are made of wood (having a peg at the end to be inserted into the shaft) with heads of obsidian lashed in place with sinew.

A splendid example of an *estolica* from Nieveria is presented in figure 22 of our illustrations. Its length is 66.5 cm. The forward ornamental piece is neatly joined. The hook at the butt end, in the shape of a bird's head, is made of a shell-like substance; the forward hook shows a carved human figure, in a squatting posture, upon a square piece. The forward piece is in the form of two human figures in a squatting position and provided with tails. The figures are placed one above the other, as on the totem poles of the northwest coast of North America.

The arrow shown in figure 21 is 66 cm. long and has a three-cornered point, 27 cm. in length, without barbs, made of chonta wood. The butt-end is cut off straight. It is surprising to note the small size of the arrows that were projected from the throwing-sticks,

A PASSAMAQUODDY AVIATOR

By J. DYNELEY PRINCE

IN 1902, I received from Mr Noel Francis, of the Passamaquoddy tribe of Maine, a series of manuscripts in the Passamaquoddy idiom with free English translation in Indian English. Mr Francis obtained most of this material from members of his own clan and several from Mareschite (St Johns River) Indians, who speak what is essentially the same language. In this tale, the first of the series, I give the Indian text exactly as Francis wrote it, although the orthography, it will be observed, is occasionally variable. Generally, the consonants are to be pronounced as in English and the vowels as in Italian, the apostrophe (') being a short indeterminate vowel. The translation I have endeavored to give literally, placing each English word or phrase under its Passamaquoddy equivalent. The commentary which follows the text and translation is as accurate an analysis of the Passamaquoddy forms as I can give by means of my Passamaquoddy and Abenaki material.

The Abenaki words are taken from my own manuscript dictionary of the Abenaki, as still spoken at Pierreville, Quebec. In reading these Abenaki words the vowels are to be pronounced as in Italian, except *ô*, which represents a nasal like the French nasal *-n* in *mon*. The consonants have their usual English value. The Micmac material is from Rand's *Micmac Dictionary*, in which the author has adopted a purely English system of spelling. The Natick words are from Trumbull's *Natick Dictionary*, where the English system of orthography, used by the old Massachusetts missionaries, is followed throughout. The Delaware material is from Brinton's *Lenâpe Dictionary*, where the Moravian German system of spelling was consistently used.

So little is known of the Passamaquoddy language that I venture to hope that a careful analysis of available matter may be of value to students of the Algonquian group. Besides what is cited

in Pilling's *Bibliography of the Algonquian Languages*, s. v. "Passamaquoddy," I have published "The Passamaquoddy Wampum Records,"¹ and "Some Passamaquoddy Witchcraft Tales."²

These Indians, some four hundred in number, whose name is a corruption from their own word *Pestumokadyik*, 'catchers of pollock fish' (= *P. peska'tum*), have preserved their language uncorrupted and retain a mass of unrecorded folklore. It seems well worth while, therefore, to publish as much of this material in the original with translation and commentary as can be reached, because in all probability, fifty or sixty years hence, nothing will be left of this picturesque remnant of our eastern Algonquian stock.

PASSAMAQUODDY TEXT WITH INTERLINEAR TRANSLATION

I. *Quihiw sebequok etlli biyemi wulinaguak sehagiw; nitt wigit*
Near the sea, where was a most beautiful lake; there lived
nusapyiwik wessiwesoltijik oskinosek mechimiro cheskowaltowuk wen pemi
three brothers, youths, always they vied who most
kisetaugu.
should accomplish.

II. *Anguotch pechinaji wemyokowal quisquesocil; waka*
Once, occasionally, they were visited by an old woman; hardly
kisuse naga etwe negapo; mechimiro na kutopo.
could she walk and nearly blind (she was); always (was) that one hungry.

III. *Tan etuchi kisipiten wut aseki kisitun.*
When however she had eaten, she wonderful things could do.
Nitetch na w'kisimiktoan tan youtel kiselmajil. Ewasiswit
This (power) she could give to whom she liked. The youngest
oskinos piyemi wuleyowul.
youth most he treated her well.

IV. *Neqt wespasakiwik Zosap w'tasman; malemta kisipit. Gmach*
Once one day Joseph fed her; then she ate. Greatly
w'lasweltem. W'tiyokon: k'temhigen wiguet naga k'telyan
she was thankful. She says to him: "Your axe take and do you make
k'maksen'k epusyeyak. Nik kisinasn't k'tuchicht ahala xips.
your moccasins wooden ones. In these you can run swiftly as a bird."

V. *Nit w'tulyan kisi-nasnat. Tan tepo eli-gilit*
Then he made them, so he could run. When then he put them on,
weyesis'l oneglat bechite peyemi kakawiyalijil.
animals he beat, even (the) most swift of them.

¹ *Proc. Amer. Philos. Soc.*, 1897, pp. 479-495; also in *Kulickap the Master*, pp. 340-359.

² *Proc. Amer. Philos. Soc.*, 1900, pp. 191-198; see also my "Notes on Passamaquoddy Literature," *Annals N. Y. Acad. Sci.*, XIII, pp. 381-386.

VI. *Nitochi machipiw otagua mipechhipha weyusis. Wusiwes*
 Then more indeed he brought game. His brothers
wucheskowalk.
 were jealous.

Asikithaswuk tan w'kisi-elokan. Nitwuchi machyin
 They wonder as to what he had been doing. After that continually
otepholanya
 they watch him.

VII. *Negt wespasakizwik onemya omignagu elti-apqutetemqu*
 Once one day they see him his birchbark box when he opens it
omusketon epusyeal m'kusnel.
 he took (out) (the) wooden moccasins.

Nitte okeskatisinen; nitte okeskatisinen. Wusiwes (lo wu)
 Then he disappeared; then he disappeared. His brothers
wulithaswuk meskemotit eli-katsilit.
 were glad that they had found what he had hidden.

VIII. *Kis-nit wataptemniya shem'l (?) asekeknoi*
 Previously (?) they had observed (?) certain (?) curious
piyaqutihign'l Zosap elti-kisloket.
 chips Joseph where he been working.

Nitte omaquayetonnia na negmow w'litanya nisok sengutel
 Then they gather them so themselves they make two pairs
epussaksen'l; nite no tojiw kehout tahalote w'siwes'l naga na
 wooden moccasins; them as well as their brother and even
aguam'k totkowtowuk.
 more they can run fast.

IX. *Zosap w'kuchiton eli katauks meskasok*
 Joseph he knows it what he had done they had found.

Apch opechyan quesquesosis apch okiseman. Nit hisipit.
 Again she comes (the) old woman; again he fed her. Then she ate.
Otiyogon elyan walsektaha; nitte na otchyan tahalo sips.
 She says: "Make for yourself a dug-out. So then you shall fly like (a) bird."

X. *Malente okisyal. Nit equehelat onepakan k'tchi nemess ayohot*
 So he made it. Then using it he caught big fish with this
milikolto sips. Napch osiwess ojeskowalkon naga okisitepn nagom.
 many fowl. Again his brothers were jealous and they watched him.
Malente apch okechichyoko tan w'telokan meskemotit.
 Then again they knew what he had done that they had found it.

XI. *Etlelokilits w'siwerwal napch piyaqutihign'l maguayawatonya*
 They going to work his brothers again chips they gather
otlitanya na negmow walsektahal; kisyatit piyemi kulusuwl
 they make it so (for) themselves (a) dugout; they made (it) more excellent
katik osiwerwal. Piyemi naga kawiyew piyemkilo botepti petholatijih.
 than their brother's. More and ? more numerous whales they captured.

XII. *Zosap etuchi w'kayit. Nit wiquonan okm'ses naga*
 Joseph however became angry. Then he called his grandmother and
w'tasman; aguam'k okisemat katik ewechitto.
 he fed her; more he fed her than ever before.

XIII. *Malemte kisipit otiyogon elit eguid n tan yot*
 So then having eaten she says: that he shall make a canoe which
kisibemyak biswukisqu; nitte omajelokan.
 can go in the air; then it went thus.

Malemte kisitagu yotel peyetekil piyagutihign' l
 So when he had finished it these which he had made chips
odem' kenmen naga opesqueleton.
 he picked up and he burned them.

Nit kisitauq otatyouhewigdowan osiwess omachyeksin
 When this he had done he took leave of his brothers he sailed off
biswukisqu.
 in the air.

XIV. *Nit elmeksit miliknol meskekil ktakmikor milikwak na*
 Then he found many strange lands many also
pemowsowinuwuk.
 people.

XV. *Negt eli-nekahat wespasakiwik onemiyen wenil*
 Once when he journeyed one day he saw someone
etli-higeligil. Otiyan: kegu kil k' tli-clok t
 shooting with He said, What you are you doing?
 bow and arrow.

Otiyogon: ntelli-penes pichedok. Otiyan wicheyemyin epasio
 He said to him: "I am fighting afar off." He said: "Come with me half
ekmilen n' tol naga k' niseksinen kenok. Wut Neplesebisit.
 I will give you my canoe and we shall go together on high." This (was) N.
Nit omachenisiksinya.
 Then they went away together.

XVI. *Nit negt wespasakiwik eli-emekahatit onemyanya*
 Then once one day when he was journeying they saw
apch wenil epilijil ketaquh' mosel.
 again someone sitting an old man.

Apch Zoxap w' tachwiyan nit na eli-kti-milat epasi elowdik
 Again Joseph said to him that he would give to him half on the way
w' tol.
 his canoe.

You eli-memhonesett pesquon witnaleq; elwete k' toklamsokyik;
 Here he opened one nostril; almost he blew him away
item: nil m' tappeguin.
 he says: "I (am) the warrior."

Okiseton na pechiwesse nit eli-milot. Wutchowen olithotmn.
 He did this so same way (?) that he would give to him. W. consented.

XVII. *Nit otiyowan niso peyeme kinapyilijhi metapeguino.*
 So he has two most brave warriors.

Nit apch machyeksitit otliksinia etli-piyemi n' sanaguak.
 So again when they departed they went together still more far.

Malemte apch emekahatiten obeteksinya m'nikok li epitaso pesquite
 So then again after they journeyed, they arrived at an island which is inhabited by a
bemousowin epitek.
 single person who dwelt there.

Nemyougetit emsaknatetol w'petin' l naga wunyag' n;
 When he saw him down (were) his hands and head;
jikalikchiye totem kenok. Wut Cheekalakohojin.
 his arm he holds (has) up. This was Ch.

XVIII. *Pesqun etasyahat nit eli-milel epasi n'tol.*
 At once he offers him that I will give you half my canoe.
Cheekalakohojin olithatm' n. Lu otiyowan nohonaka kinapyijik katama
 Ch. consented. So he has three brave not
kegt neqt morwajik m'tapeguinwuk.
 anything fearing warriors.

XIX. *Nit machyeksitit tesaguiw spemek wutchwikok na*
 So then they went along over high mountains among also
guespemikok sibwikok naga sobegkok.
 lakes among rivers among and seas among.

Malemte pechiyik k'takmigu eyitit mechikichik miga' kewinwuk
 So then they came to a land where lived many warlike
bemousowinwuk.
 people.

XX. *Sakmal otiyokonya: wen neklat n'tosel nite*
 By the chief was said to them: "Who beats my daughter then
oniswinya. Zosep otiyan Neplesebisijil: kil lih.
 they shall marry," Joseph said to Neplesebisit, "You run,"

XXI. *Malem pijedo pethowdowuk. Nit westwekowditi otiyoukon:*
 So a long way they started off. Then she who ran m:
atbas nunuk. Malemte olli-wulithatm' n.
 "Rest a while," So he consented.

Otiyoukon: lokezin n'tasnumelok k'tap quent' n.
 She said to him: "Lay in my lap your head. I will loose you."
Malemte olithatm' n. Nit otequik. Kchichiton wut
 So he consented. So he fell asleep. She knew that
w'tepit wechi-n' klat.
 woman that she had beaten.

XXII. *Cheekalakohojin w'kchijiton elipiyak. Wikquetowan*
 Ch. knew what had happened. He took
eplesebisijil otatapyil naga opaquyil naga w' natotetwan.
 Neplesebisit's bow and his arrows and be missed.
Amsquas elhigetopelhal apch w'telhigan naga omiyowetewan.
 At once he fired at again his thigh and he hit him.
Nita wetta-miktequhit.
 Then woke up.

XXIII. *Malemte nemyot wechkokowchijik epit fichetto*
 Then when he saw them coming (the) woman far

li niganbo *Wutchow's'n* *etuchi* *memhowinesett* *nittena*
 ahead (was). W. however opened up and then
pechiwesek. *Nit* *epit* *etuchi* *agum'tek* *elwide* *katama*
 the wind blew hard. Then the woman however stopped hardly not
kisikapwiw. *Nit weji* *Neplesebisit* *kisipemitekquat*; *nita na oneklan.*
 she could stand. After that N. passed her; so he won.

XXIV. *Sakem wisikilwehe (?)* *w'tiyogonya* *mech-che (?)* *kata*
 The Chief was very angry he said: "As yet not
k'mesnawiwa *n'dos.* *Ansacheyakisteyek* *matnetolтийу.*
 do you get my daughter. We will challenge you that we fight."
Nite na omagueman *oskitap* *omatneggonia.*
 So then he gathered his men (and) they fought.

XXV. *Zosap naga* *ometapeguinom* *mesqu* *mesmesnemotiqu*
 Joseph and his warriors before they could reach
otolwa kisi-etquetekwan
 their canoe they cut them off.

Zosep *otiyen* *machephotinek* *ansabemitimikwak.*
 Joseph said departing let us make a detour, and escape.
Neplesebisit naga *Cheekalakhoin* *sigimikyik.* *Zosep wutiyen*
 N. and Ch. fought hard. Joseph said
Wutchow'sen'l tanetch k'telokanen? *Tanech elokiyiqu* *chowichliya.*
 to W.: "What shall we do? Whatever we may do, must be done quickly."

XXVI. *Nitte Wutchow's'n item:* *nilesh nteguechi-isah musimak.*
 Then W. says: "I indeed will hold them off.
Nit omemhowi nisan teguite *witn'l* *Nit etuchi pechiwesek;*
 Then he opened two his nostrils. Then indeed the wind blew
mesq tutlamsno *etutlamsek*
 not before as it had not blown it blew.

K'tchi epsiyik *apoch kelkesoltowek;* *ayayotel kchi* *penapskol*
 Big trees even were blown down: even those big rocks
abgulamsek.
 were overturned by the wind.

XXVII. *Cheekalakhoin* *o-saw-mi (f)* *nemya* *siktekohketoo*
 Ch. saw the foe
keplamsokhetilit *epüssih* *ayotel* *pemlamsekil* *penapskol.*
 overwhelmed by wind by trees and those overblown rocks.
Wakerwak esqutohofik *weswepph' tijik*
 A few escaped (and) gave it up.

XXVIII. *Nit Wuchow's'n Neplesebisit naga* *Cheekalakhoin* *Zosep*
 Then W. N. and Ch. Joseph
w' sankewi-machhanya *wecheyowultitit*
 started for home (and) lived in peace.

XXIX. *Mettabekso.* *Elathoket Plansoe* *Plansis* *Wulastegue*
 The end. Related it Frank Francis of the Mareschite
w'cheye.
 tribe.

COMMENTARY

I. *Quihiw* 'near'; = M. *kweiik*; A. *kikakwa*, *kwa'liwi*.

Sebequok; loc. of *sebey* 'sea' = A. *sobagw*, containing the same element as P. and M. *samaguan* 'water' = *nup* in all the other Algonquian idioms. See just below on *sebagiw*, and see XIX.

Etti; a relative particle 'where, when.'

Wulinaguak 'beautiful'; = *wuli*, *uli* 'good' + inan. adjectival ending *-naguak*.

Sebagiw; same stem as *sebey* above. Cf. also XIX.

Nitt 'that, there'; the demonstrative element = A. *ni*.

Wigit; 3 p. sg. and pl. of the participle. The stem is *wig* 'live,' whence *wigwadm* 'house,' common in Algonquian.

Nusapyiwik 'three' = *nus* 'three' + *ap*, element denoting 'man,' as in *skitap* 'man' (see XXIV) + ending *-yiwik*, anim. participle.

Wessiwesolijik, 'brothers' = P. *wessiwes* 'brother'; M. *nsees* 'my brother older than I' + verbal reflexive anim. ending *-oltijik*. This really means 'they are brothers to each other.'

Oskinosek, pl. of *skinos*, *oskinos* 'youth,' from *uski* 'young' = A. *uskinos*; N. *wuske* 'young.'

Mechimiw 'always' = A. *majimiwi*, probably same stem as in M. *apchoo*. Certainly it appears in N. *micheme* 'for ever.'

Cheshowaltowuk 'they are jealous' = *cheshowal*, probably with reflexive *al*-element. No cognate. See VI.

Wen 'who' = A. *awani*; N. *howan*; M. *tan wen*.

Pemi 'more' = A. *paami*. See s. v. *piyemi*, III.

Kisetaug 'which he did'; a participial construction = 3 p. an.

II. *Anguotch* 'once' seems to contain element 'one' seen in *neqt* 'one' + the common particle ending *ch(tch)*. See below on *amsquas*, XXII.

Pechinaji probably means 'occasionally,' from context. *Pechi* usually indicates continued action as in *opechyan*, IX: 'she comes' = A. *pejidaka* 'he sends, puts in motion.'

Wemyokowal; probably a passive with the instrumental expressed by *-wal* and supplemented by the obviative *-il* in the following word. The stem seems connected with M. *emitoogwolk* 'visit.'

Quisquesocil; obviative of *quisquesos* = *quis* 'old,' containing same element as *k'tchi* 'big, old' + *sque* = 'squaw, woman.' Cf. also IX. and note M. *kesegooceshw* 'old woman'; N. *kehchisqua*, *kutchisqua*.

Waka 'hardly'; really = 'not, indeed.' *Ka* 'not,' as in *katama* 'not,' XVIII. *Kisuse* 'she could not walk.' *Kis* 'can be able' + *was*,

seen also in N. *pom-ush-au* 'walk' + the negative *-e*. For \sqrt{us} , cf. A. *uskid-osa*, *p'm-as*, *l-osa*; all = 'walk, go,' etc.

Naga 'and.' Not identical with A. *naga* 'recently, the other day.' P. *naga* contains the stem seen in M. *ak* 'and.'

Elwe 'nearly' = A. *alwa* 'almost.' Cf. XVI. In M. *soo'l*, the *-el* is clearly the same element.

Negapo 'she (he) is blind' = M. *nëgäbegwäe* 'he is blind.'

Na 'that one' is a common Algonquian particle.

Kutopo 'she (he) is hungry' = A. *ngadópi* 'I am hungry'; N. *kod-tuppo* 'he is hungry.'

III. *Tan* common Algonquian relative particle = A. *töni*, M. *tan*.

Etuchi 'however' = A. *adoji*.

Kisipiten; participle 'she (he) had eaten'; *kisi* = past tense + \sqrt{pi} 'eat' (also A., etc.) + *t* = 3 p. + *en*, here a relative sign.

Wut 'he, she, this, that.' Stem seen in N. *ut*, as *na ut* 'thereupon.' *Aseki* 'wonderful things'; also in A. *öshagalokawögan* 'a miracle.' See VIII and XIV.

Kisitun 'she (he) hid' = M. *kesadöo* 'he did.'

Nitetch = *nit* 'that' + *-etch*, particle.

W'kisimitwan 'she (he) could give to him': *w'* = prefix 3 p. + *kisi* 'can' + *mit* 'give' (common Algonquian) + *wan* 'to him, her, it.'

Tan youtel. To use *tan* as a personal relative, it must be combined with *yout* 'this,' or *nit* 'that.' *Yout* is obviative here with *-el*, the object of the following verb in the 3 p. Cf. *ayayotel*, XXVI.

Kiselmajil 'she liked him' = A. *kazalmömuk* 'to love': also M. *kisälk* 'like' + obviative *-il*.

Ewasirwit 'youngest'; *ewasis* 'child' = A. *awössis* 'child' + partic. 3 p. *-wit*.

Piyemi 'most'; a distracted form of *peml* 'more.' See I.

Wuleyowul 'he treats her well' = *wuli* 'good' + active insert *yow* + obv. *-ul*.

IV. *Negt* 'one, once' = N. *negut* 'one.' In A. *pasego*, the element *eg* = *eq* in *negt*.

Wespasakiwik, with locative *-ik* really = 'in the morning'; A. *spözwöwü*.

Zosap, from French form of 'Joseph.'

W'tasman 'he feeds her' (also IV); *w'* = 3 p. prefix + *t* infix before a root beginning with a vowel + \sqrt{sm} 'feed,' seen in M. *ootasümik* 'I feed him'; note *okiseman* in IX + *an* 'to her' (him, it).

Malemit 'then'; *malem* + *te*.

Gmach = *kmach* 'exceedingly.' Same root as N. *akche* 'exceedingly.'

W'lasweltem 'she (he) is thankful'; contains *wuli* 'excellent' combined with the 3 p. prefix *w'* + *tem*, inanimate ending for 'it.'

W'tiyokon 'she (he) says to him (her)'; *w* = 3 p. + *t* insert before a vowel + \sqrt{t} 'say,' seen in *item* 'he says' + *okon* 'to him' (her).

K'temhigen 'thy axe'; *k* = prefix of 2 p. + *temhigen* 'axe' from \sqrt{tem} 'cut' = A. *tamesomuk* 'cut down' + *higen*; abstract inanimate ending.

Wiquet 'take' imperative = A. *wikwonomuk* 'to take, draw.' Cf. *wikquetowan*, XXII.

K'talyan; *k* = 'thou,' 2 p. + infix *t* before vowel + \sqrt{el} 'make, do' + *yan* 'it.' Cf. V. and VI.

K'maksen'k 'thy moccasins'; really 'moccasins for you'; a peculiar idiom. Note here the animate plural *-k*. It is inanimate *-l* below.

Epusyeyak 'wooden ones'; from *epus* 'wood, tree' (cf. XXVI: *epsiyk* 'trees') = A. *abasi* 'tree' + *yak*, pl. animate.

Nik; *ni* + *k* 'in this, these.'

Kisinasn't 'you can run'; *kisi* 'can' + *nasn't* = N. *nussishau* 'run.'

Ktuchicht 'swift'; perhaps = M. *na-ksaate*; *ksaas* = *k-ch-ch* (?). For the stem \sqrt{ch} 'swift,' cf. XXV, s. v. *chow-chliya*

Ahalo 'like, as' = A. *tohólawi* 'like unto.'

Sips 'bird' = A. *sips*; *sesip* 'bird.' Cf. on VIII.

V. *W'tulyan* 'he makes them'; *w'* = 3 p. + *t* infix before vowel + *ul*, *el* 'make, do' + *-yan* 'them.' See on IV and VI.

Kisinasnat; see on IV, and note full spelling *nasnat* here.

Tepo 'then'; particle.

Eligilit 'when he put them on'; *eli* 'when' + \sqrt{gl} , perhaps = stem in A. *us-ki-tadmuk* 'to wear, put on'; *l* is probably obviative = 'it,' 3 p. participle.

Weyesis'l 'animals'; pl. of *weyesis* 'animal' + obv. *l*. Cf. A. *awas* 'animal'; N. *šdaas*; M. *weisis*.

Oneglat 'he beat them'; *o* = 3 p. + \sqrt{negl} ; see on XXI + *al*, obv. pl. *Bechite*; *pechi* as in *pechinaji*, II + *te*.

Kakawiyatijil; literally 'those who are swift,' with obv. *-il*. Probably contains the same root as A. *ke-s-usao* 'he goes fast'; M. *mejim-ka-dase*.

VI. *Nitochi* = *ni* 'that' + *tochi* 'then' = A. *adoji* 'such.'

Machipiw; here = 'more' (?): probably *mach* = continuation, as *mach* means 'go, proceed'; cf. *omajelohan*, XIII.

Otagua; I render 'indeed.' It is cognate with A. *taguagu*, denoting finality, as in A. *taguagualokamuk* 'to finish' = *taguagu* + *alokamuk* 'do, make,' i. e., 'an end of.' *Otagua* here is like 'so,' giving the sense of finality. Cf. also *machyin*, this paragraph.

Pechi same element as in *pechinaji*, II.

In *wusives*, the scribe has not omitted the pl. *-k* which, in this phrase, appears only in the verb, as in VII.

Wucheshowalk is the direct stem from *cheshowal* 'be jealous of.' The pref. *wu-* = 3 p., and the final *-k* = the animate plural. Cf. s. v. *cheshowaltowuk*, I.

Asikithaswuk 'they wonder'; a combination of *aseki* 'wonderful' as in III + \sqrt{has} denoting any mental process, as P. *n'klidahas* 'I think' + pl. an. *-wuk*.

W'kisi-elokan 'he had been doing'; *w* = 3 p. + *kisi* = past + \sqrt{el} 'do.' See also IV and V. The ending *-okan* is inanimate.

Nitwuchi 'after that'; *nit* 'that' + *wuchi* 'after' = A. *weji*. Cf. s. v. *wechi-n'klat*, XXI.

Machyin see on *machipiw* in this paragraph; *mach* = continued action. *Otepkolanya* 'they watch him'; *o* = 3 p. + \sqrt{ep} 'watch,' seen also VIII, s. v. *wataptemniya* + another element *kol* (?) + pl. *-ya*.

VII. *Onemya*; *o* = 3 p. + \sqrt{nem} 'see' (common Algonquian) + pl. *-ya*.

Omignagu 'his birch-bark box'; *o* = 3 p. + *mignagu*. This probably contains the same element as A. *wigwa-ol* 'birch-bark canoe,' although the word in A. for birch-bark is *miskwa*; N. *maskwe*.

Elli-apqutetemqu 'when he opens it'; *elli-* 'when' + *apqute* 'open' = N. *pohquaen* 'open' + *-tem*, inan. ending + *qu*, the personal participial suffix.

Omusketon 'he took it'; *o* = 3 p. + \sqrt{musk} , cognate with A. \sqrt{mes} 'find' + inanimate finite ending *-ton*.

Epusycyal m'kusnel 'wooden moccasins'; cf. IV. Here these words have the obviative *-l*.

Nitte 'then' = *nit* 'that' + the particle *-te*.

Okeskatisinen 'he disappeared'; *o* = 3 p. + $\sqrt{keskatisin}$ 'vanish' M. = N. *keskadisin* 'vanish' + particle *-en*. Repeated twice by mistake.

Wulithaswuk 'they are (were) glad'; *wuli(t)* 'good' + \sqrt{has} = a mental process 'think' + pl. *-wuk*. The 3 p. prefix *w'* is merged here in *wuli-*.

Meskemotit 'that they had found'; *meskem* 'find' = A. *mesnem* + the connecting *-o-* + the 3 p. participial ending *-tit*. See IX and X for this form.

Eli-katsilit 'what he had hidden'; *eli* = relative particle + $\sqrt{\text{hats}}$ 'hide' = A. *kottasimuk* 'to hide' + *il*, inanimate + 3 p. participle -*it*.

VIII. *Kisnit* 'previously' is, I must conclude, a wrong translation. *Kis-nit*, = after that'; cf. A. *kini*, M. *kes kese* 'after.'

Wataptemniya should be 'they observed,' containing the same stem as in *otepholanya*, VI and X.

Sbem'l. I give the Indian's rendering 'certain,' but it must = 'high' (?). The manuscript is not clear at this point.

Asekeknol 'curious'; adjective with inan. obviative. Same stem as *aseki*, III.

Piyaqutihign'l 'chips,' pl. inanimate. *Piyaqu* must be cognate with the root *peeg* in N. *nuppeegham* 'I shave, slice' + neuter ending -*hig'n* + inan. plural -*l*; also XI and XIII.

Etlī-kisloket; *etli* 'where' + *kis* = 'past' + *lok* = *el* 'make,' as in *ktelyan*, IV + participial -*et*.

Omaquayecotonia 'they gather'; *o* = 3 p. + $\sqrt{\text{maquayeo}}$ 'gather' = A. *maga-mōldi-muk* 'to gather'; N. *miyaeog* 'they gather'; cf. also XXIV: *omagueman* 'he gathers them' + inan. ending *ton* + pl. *ia*. Cf. XI.

Negmow 'they themselves' = M. *negumow*; N. *neg*, *nag*; A. *ag'mōwō* 'they.'

W'litanya; *w'* = 3 p. + $\sqrt{\text{li}}$ element = 'make, do' + inan. -*tan* + pl. *ia*.

Nisok 'two' = N. *nees*.

Sengutel probably 'pairs,' from context, with inan. pl. *el*.

Epussaksen'l with inan. pl. -*l*; *epus* 'wood' + $\sqrt{\text{kem}}$, same element as in *m'kusnet* 'moccasins.' This is an excellent example of polysynthesis.

Kelwut 'well, good' = M. *keloose* 'be good,' containing the element *uli* 'good,' with a formative prefix *k-*.

Tahalo + *te*. Cf. on IV, s. v. *ahalo*.

W'siwes'l; note obviative *l*.

Agum'k, with loc. -*k* probably = A. *agōmi* 'across, beyond' = 'more than, in greater degree.'

Totkowotowuk = M. *tetkweem* 'run fast' + 3 p. pl. anim. -*wuk* 'they.'

IX. *W'kuchiton* 'he knows it'; *w'* = 3 p. + $\sqrt{\text{kuchi}}$ 'know' = M. *kejedegā* + inanim. -*ton*. Cf. XXI, s. v. *kehichi-ton*.

Eli-katauks; *eli* 'what' = *katauks* 'that which he has done'; 3 p. sg. participle. Cf. *kisitaqu*, XIII.

Meskasok 'they had found it' = A. *mesnem*. Cf. *meskemotit*, VII.

Apch 'again' = M. *āpch*.

Opechyan 'she (he) comes.' Cf. on II.

Quesquesosis, with diminutive *-sis* = 'little old woman.' See II.

Okiseman 'he feeds her' (him); *o* = 3 p. + *kis* = past + probably \sqrt{sm} 'feed.' Cf. IV: *w'tasman*; \sqrt{sm} + *an* = anim. object 'her, him.'

Elyan 'make for yourself'; imperative; \sqrt{el} 'make' + *yan* = object.

Walsektaha 'dugout' contains element = A. *wōlkaa* 'hollow place.'

The element *sek* may be cognate with M. *pooskesadoo* 'to hollow it out.'

Otchyan, with participial 2 p. *-yan*; \sqrt{otch} = M. *wēchās* 'fly.' In A. 'a fly' (insect) = *ujawar*, and undoubtedly contains the same stem.

X. *Okisyal* 'he made it'; *o* = 3 p. + *kis* here = 'make, do' + connecting *y* + inanim. *-al*.

Equhelat 'he using it' = A. *awakamuk* 'to use' + *el* inanimate + the participial *-at*.

Onepahan 'he catches it, them'; *o* = 3 p. + \sqrt{nepa} , perhaps = A. *pi-thō* 'catch' + *-han*, 3 p. pl. Note, however, the stem *pi* (*pe*) 'catch' in XI: *petholatijik*.

K'tchi 'big' = A. *kchi*.

Nemess 'fish'; here obviative plural = A. *namas*; M. *numāch*.

Ayohot, a distracted form of *yot*. Cf. *ayayotel*, XXVI.

Milikolto 'many'; *milik* = many + *olto*, perhaps a reflexive element. Note the forms *miliknot*, inanimate; and animate *milikwak*, in XIV.

Napch = *na* 'that' + *apch* 'again' = 'then again' here.

Ojeskowalkon. Cf. I, s. v. *cheskowaltowuk* and VI: *wucheskowalk*. This is the 3 p. *wu* + *cheskowal* + *-kon*.

Okisitepn 'they watched (him)'; *o* = 3 p. + *kisi* = past + \sqrt{tep} 'watch,' as in VIII. The *n*, I believe, is the 3 p. an. object.

Nagom 'he, him'; usually written *negum* in Passamaquoddy = M. *nēgum*; A. *ag'ma* 'he, him.'

Okechichyoko 'they know'; *o* = 3 p. + $\sqrt{kechich}$, as in IV: *w'kuchiton* + *-yok* 'it' + *o* = 3 pl. ending 'they.'

W'telohan 'he had done it'; *w* = 3 p. + *t* infix before vowel + \sqrt{el} 'make, do' + inanim. ending *-kan*.

XI. *ettlelokilits* 'as they set to work'; *ette* (*i*) 'as when' + \sqrt{elo} 'make, do' + *k* inanimate + *il* obviative + participial *-its* = 3 p. pl.

Maguayewatonya. Cf. *amaquayeotonia* 'they gather,' VIII. Here the 3 p. prefix *o-*, *w'* is perhaps omitted accidentally.

Otlitanya 'they make it'; *o* = 3 p. + \sqrt{li} = \sqrt{el} 'make, do' + inanim. *-tan* = 3 pl. *ya*.

Kiryatit; *kis* 'do, make' + connecting *-ya-* + 3 pl. participle *-tit*.
Katik 'than,' usually written *k'duk*, really means, 'other, different'
 = A. *k'dagi* 'than, other'; also in XII.

Osirwerwal 'their brother' = 'their brother's.'

Kawiyew I cannot explain.

Piyemkilo contains *piyemi* 'more' with probably a cognate stem of M. *moowepewelkal*; $\sqrt{lk} = \sqrt{kl}$ (?).

Botepi 'whales' = *bootup*; A. *pôdaba*; N. *poôdap*, *potab*. The *-i* is perhaps an abbreviation of the pl. an. *-ik*, the *-k* being omitted in the obviative.

Petholatijihi; literally 'those which they had captured'; \sqrt{petho} 'capture,' A. *pithô*. See on X. The ending *-atijihi* is the usual obviative of the 3 p. participle.

XII. *W'kayit* 'he became angry'; *w'* = 3 p. + *kay* = M. *wegעי* 'angry.'

Wiquonan 'he called her' = M. *wegoomk*; N. *wehkoman* 'call' + an. *-an*.

Ok'mses 'his grandmother' = N. *okummes*; A. *okomes* + diminutive *-ses*.

W'tasman 'he feeds her.' See IV.

Okisemal is past tense; *o* = 3 p. + *his* = past + \sqrt{sm} 'feed' + *al-* suffix 'he fed her.'

Ewochitto 'ever before'; cognate with M. *yâpchôo*, *âpchôo* 'ever.'

XIII. *Elit* 'that he shall make'; \sqrt{el} 'make' + 3 p. participle *-it*.

Egwid n 'canoe'; also written *agwed n* = M. *kwedun*. The possessive form of this word appears with the different root *-ol*, as *ntol* 'my canoe,' which element is seen in A. *wigwa-ol* 'birch-bark canoe.' See below on *otolwa*, XXV.

Kisibemyak 'it can go'; *kisi* 'can' + *bemi*, denoting continued action, as A. *pami-duo* 'it flies' + the inanimate particle ending *-ak*.

Bisuwikisqu, also with *p-*, 'air'; here 'in the air,' contains the same element as M. *moosegiskw* 'air,' the last element is clearly *kesuk* 'day, atmosphere, weather.'

Omajelohan 'he (it) goes'; *o* = 3 p. + *majelo* = A. *mahjalon* 'it goes' + inan. *-kan*.

Kistagu: really a participle. See just below and cf. IX on *katauks*.

Yotel peyetekil piyaqutihign'l. *Yotel*, inan. pl. of *yot* 'this'; *peyetek* participle 'which he had made' + inan. *-il*; *piyaqutihign'l* 'chips'; see VIII.

Obem'kenonen 'he picked them up'; *o* = 3 p. + *bem* = *bemi* =

continued action + \sqrt{mkm} , cognate with M. *megunum* 'pick, pluck' + definite inan. *-en*.

Opeskeleton 'he burned them'; *o* = 3 p. + *peskwe*, containing root of *skwut* 'fire' + inan. element *-l* + definite inan. *-ton*.

Otatyuhewiglowan 'he took leave of them'; *o* = 3 p. + infix *t* before vowel + *atyuhewigdo* = M. *adāawiktak* 'to bid farewell.'

XIV. *Elmeksit* 'that he found'; *el* relative element + \sqrt{meks} 'find,' seen in X. *meskem-otit* + the participial *-it* 'that he.'

Miliknol 'many'; inan. adjectival form. Cf. X. s. v. *milikolto*.

Meskekil: inan. pl. same root as in *aseki*, III.

Ktakmikoł 'lands'; inan. pl. with *-ol* of sing. *ktakmigu* 'land,' XIX = M. *makumegow*, containing element *ak* = 'land,' as in A. *aki*; N. *ohke* 'land.'

Note animate pl. *-wak* in *milikwak*.

Pemousowinwuk 'people,' as in A. *p'mōwzowinnowak*, from *p'mowa* 'walk erect' + *winno* 'a person' + pl. *-wuk* (A. *-wak*). Cf. *bemousowin*, XVII, and *bemousowinwuk*, XIX.

XV. *eli-nekahat* 'when he had journeyed'; *eli* 'when' + \sqrt{nekah} , perhaps cognate with M. *pemkene* 'journey' + *at* partic. 3 p. Cf. XVI, s. v. *emekahatit*.

Onemiyān 'he saw him (her)'; *o* = 3 p. + \sqrt{nem} 'see' + animate definite *-an*.

Wenil = *wen* 'one, someone' + obviative *-il*.

Etlī-higeligil; *etlī* 'while' + *higel(ig)* = M. *etlugāc* 'shoot with a bow,' where the element *etl* = P. *etlī*; the stem 'to shoot' seems to lie in the element \sqrt{g} ; cf. M. *pāskugā* 'shoot with a gun.' The *-il* ending in *etlī-higeligil* is obviative. Cf. also XXII, s. v. *elhigetopelhal*.

Otiyan 'he says to him'; *o* = 3 p. + *t* infix + \sqrt{i} 'say' + (y)an to him.'

Kegu 'what'? = A. *hagui*?

Kil 'thou' = M. *keel*; A. *kia*; N. *keen* 'thou.'

K'tlī-elok 'thou art doing it'; *k* = 2 p. + *tli* = *etlī* = continued action + \sqrt{el} 'do, make' *ok* = inan. 'it.'

Ntelli-penes 'I am fighting'; *n* = 1 p. + *t* infix before *etlī* + \sqrt{penes} 'fight' (?).

Pichedok 'far off,' with locative *-k*. *Pichedo* is common Pass. for 'far'; cf. XXI, and XXIII; *pichetto*. I can find no cognate.

Wichyemyin 'come with me.' The element *wich* = A. *wij* 'along with,' seen in *wijawī* 'come with me' + *yin* 'here' = 1 p. 'with me.' (A. *-wi* in *wijawī*).

Epasio 'half' = A. *pabasi* 'half.'

Ekmlen 'I give thee'; *ek* for *k* = 2 p. + \sqrt{mil} , common Algonquian for 'give' + *-en* = 1 personal element. Cf. A. *k-mil-el* 'I give to thee.'

N'tol 'my canoe' = 1 p. poss. of *eguid n* 'canoe,' XIII.

K'niseksinen 'we shall go together'; *k* = 1 p. pl. inclusive + *nis* 'two, both' + *eksin* 'go' + *-nen* 'we.' See just below, s. v. *omachenisiksinya*.

Kenok 'up, on high,' with loc. *-ok*. Cf. *kōhka* 'high,' and note XVII: *kenok* 'up.'

Neplesebisit, with participial *-it* 'he who has one foot higher than the other' — thus my Indian authority. The attitude probably indicates that this being was constantly in the act of drawing a bow.

Omachenisiksinya 'they go off together': *o* = 3 p. + *nis* 'two, both' + *eksin* 'go' + 3 p. *ya*. See just above on *k'niseksinen*.

XVI. *Eli-emekahatit*; *eli* 'while' + \sqrt{emekah} , same stem as *nekah*, XV, *eli-nekahat* + participial *tit* = 3 p.

Onemyanya 'they see'; *o* = 3 p. + \sqrt{nem} 'see' + *yan*, obj. 'him' + pl. *-ya*.

Epilijil 'one sitting' = P. *ubo* 'he sits,' from \sqrt{ub} , *ep*, *ap* = A. \sqrt{ab} , seen in *dabit* 'one who sits.' A common Algonquian stem. The ending *-ilijil* is the regular obviative of the participle.

Ketagh' mosel 'old man,' containing element \sqrt{kt} 'big, old' + obv. *el*.

W'tachwiyan 'he desired or requested him'; *w* = 3 p. + *t*, infix before vowel + *achwi* = A. *achowal* 'desire' + *yan* 'him.'

Eli-kti-milat 'that he would give to him'; *eli* 'that,' conj. + *kti*, probably = continued action + \sqrt{mil} 'give' + participial *-at*, 3 p.

Elowdik seems to mean 'on the way'; *el* = *eli* + *owd* 'way' = A. *owdi* 'road' + loc. *-ik*.

W'tol 'his canoe.' See above *n'tol*, XV.

You, pron. *yū*, means 'here,' containing the same element as *yot* 'this.'

Eli-memhonesett, 'when he opened'; *eli* 'when' + *memho*, probably = A. \sqrt{mam} in *mamlawi* 'abundantly'; *mamōwīwi* 'all together' + *nes*, perhaps = Ojibwa *nissakonan* 'open' + participial *-ett*. Note XXIII: *memhowinesett* and XXVI: *omemhowi*.

Pesquon 'one' = A. *pasegwen*. The *n*-ending is inanimate. Note the anim. form *pesgute*, just below.

Witnaleq 'his nostril,' contains root of *muton* 'nose' = *mejōl* 'nose.' The last part of the word: *-aleq* seems to mean 'hole'; viz., 'nose-hole'; cf. M. *etm-alk-ūh* 'hole,' and see s. v. *witn'l*, XXVI.

Elwe-te = *elwe* 'almost'; cf. II. + particle *-te*.

K'toklamsokyik 'he blew him away.' The ending *lams* (*en; ik*) 'blow off' appears in A. *kællömsen* 'it blows.' The suffix *-yik* here is the inanimate. Cf. *tutlamsno*, XXVI.

Item 'he says'; \sqrt{i} 'say' + inan. *-tem* 'it.'

Nil 'I' = M. *neen*, A. *nia* 'I.'

m'tappeguin 'warrior'; also in XVII, XVIII, and XXV; Lenâpe Dict. 94: *netopolis* 'warrior' (*menetopolis* 'scout, skirmisher,' Anthony). Clearly cognate.

Pechiwesse 'same way' (?), or perhaps 'again' (?). This is probably not the same as *pechiwesek*, XXIII: 'it blows hard.'

Eli-milot; *eli* 'that,' conj. + \sqrt{mil} 'give' + participial *-ot*, 3 p.

Wutchow's n is the Northwind personified. See "Kulóskap the Master," p. 370 = M. *oochoosun* 'wind.'

Olúthotmn; *oli* 'good, willing' + (*t*)*hot*, denotes a state of mind as in P. *klidahatmen* 'he thinks of it' + inan. definite *men* = A. *men*. Cf. XIX.

XVII. *Otiyowan* 'he has'; *o* = 3 p. + \sqrt{n} 'have, possess' + *wan*, object. This stem *ti* means 'have,' as in P. *ntiyin* 'I have it.' It appears also in N. *ohtau*, 'he has.'

Niso 'two,' with obv. ending *-o*, seen also in *metapeguino*. The obv. is usually denoted by *-i*.

Kinapyilijhi 'valiant'; participial form from *kinap* = N. *kenompae* 'brave'; M. *kenâdawé*. The ending *-ap* is the same seen in P. *skit-ap* 'man.' The end *ilijhi* is the obv. of the participle *-it*.

Machyeknitit = \sqrt{mach} 'go' + *eks* 'go' + *tit* = 3 p. participle. Cf. XIII, XV, s. v. *k'nisekinen*.

Nsanaguak 'far.' I translate from context.

Obeteksinya 'they arrive'; cognate with M. *p'g'g'sin* 'arrive.' Our form here seems to have an infixed *-t-*.

M'nikok 'at an island,' from *m'nik* 'island' = M. *munegoo*; A. *menahan*. Note that A. *m'na'tan*, the original of Manhattan, means 'an island formed by the tide.'

Epitaso 'inhabited'; \sqrt{ep} 'dwell,' as in XVI *epilijil* + participial *-it* + passive *-aso*.

Epitek shows the strengthening *-ek*, added to the participial *-it*.

Pesqute 'one'; anim. form. Note *pesquon*, XVI.

Nemyougotit 'when he saw them' or 'him'; \sqrt{nem} 'see' + *youg* 'to him' + partic. *-tit* = 3 p.

Emsaknatetol 'down'; inan. adjective with *-ol*. This seems to contain the same stem as M. *sik-tasin* 'to fall down.' This \sqrt{sk} -sg element appears in a number of compounds; cf. Rand, Micmac Dict., p. 90.

W'petin'I 'his hands'; *w'* = 3 p. + *petin* 'hand'; A. *petin*, M. *mpētun* 'hand.'

Wunyang'n for 'head' is Mareschite rather than Passamoquoddy, whose word is *mdup* (also in A.). Cf. s. v. XXI: *ktap* 'thy head.' In the little work by Nicola Tenesles, "The Indian of New England" (1851), p. 18, the form *na-neahgn* 'my head' is given, the nom. form of which is clearly *munyang'n*. He gives also Mareschite *wun-neahgn-nesis* 'nipple'; lit. 'little head.'

Jikalikchiye 'arse, rear'; cognate with A. *w'jichik* 'stern of a boat.'

Totem = *w'totem* 'he holds it,' from \sqrt{to} , the same stem as in \sqrt{h} 'to have'; see above *otiyoman* + *inan*. -*em*. The English loan-word *totem* is clearly from this stem; indicating a distinctive mark. Cf. also ND. p. 209; *wutohtu* 'inhabitant, one belonging to a place,' i. e., one had in a place.

Kenok; cf. s. v. *kenok*, XV.

Cheekalakohojin means 'he who holds his arse up'; a posture which was perhaps suggestive of *watchfulness*, as it is the attitude assumed in carefully examining a trail.

XVIII. *Etasyahat*; *et*, relative element + \sqrt{aryah} 'offer, present' (?) + *at* partic. = 3 p.

Eli-milēl 'that I give you'; *eli*, rel. element + \sqrt{mil} 'give' + *el*, 2 p.

Nohonaka 'three' = *nohonak*, pl. of *nas* 'three' + obv. -*a*.

Kinapyijik pl.; cf. s. v. *kinapyilijhi*, XVII.

Katama, regular P. for not. The Mareschite cognate is *s-kat*.

Keqt here = 'anything.' *Keq* = 'what,' XV.

Mowijik 'they who fear'; pl. partic. from sing. *mo-wit*. I can find no cognate for \sqrt{mowi} 'fear,' unless it is connected with Algonkin *mawi* 'bewail'; Cuoq, Lex. Alg., p. 211 (?).

XIX. *Tesaguio* 'over, across'; cf. A. *tasōkhiwi* 'on top.'

Spemek; pl. anim. = 'high'; cf. P. *spumki*, A. *spemki* 'heaven.'

Wutchwikok, from *wutchō* 'mountain'; A. *waje* + *ikok* 'among.'

Guespem-ikok; from *guespem* 'a lake'; pron. *guspem*; M. *koospem*.

Sibw-ikok; *sibō* 'river'; also A. *sibō* and M. *seboō*.

Sodeg-kok; for 'sea,' cf. *sebeg*, I.

Pechiyik; 3 p. pl. 'they come' = A. *paid* 'come'; M. *pegesink*.

Ktakmiqu 'land,' see s. v. *ktakmikoł*, XIV.

Eyitit 'where they were'; *ey* is the rel. element 'where' + \sqrt{t} 'be' + 3 p. *tit*.

Mechikichik 'many' shows same stem as A. *mex-alto* 'many.'

XX. *Sakmal ottyokonya*; a curious construction. *Sakmal* = obv. is a half objective of *ottyokonya*. Lit. = 'they say to him,' used as a passive; viz., 'it is said; namely with respect to the chief' = 'by the chief.'

Neklat 'he who conquers'; also V. *oneglal*. Perhaps same stem as A. *w'negalegon* 'it leaves him,' i. e., 'leaves him behind.' Cf. *wechi-n' klat*, XXI.

Ntosel 'my daughter' A. *ndosa*; cf. on *ndos*, XXIV. Here it is obv. after the verb in the 3 p.

Oniswinya 'they shall marry'; *o* = 3 p. + \sqrt{nis} 'two, together' + *win* = the same element as in *bmowsowin* 'person' + pl. *ya*.

Lih, imperative; 'do thou run' = A. *h'lòmuk* 'to run.'

XXI. *Petkowdowuk* 'they depart'; with pl. *-wuk*. Same stem as in M. *poktumkaase* 'he departs.'

Weswekowditi 'she (he) who runs'; obv. partic., containing stem of N. *quogqueu* 'he runs' = P. *wes-wekow*.

Atlas; thus my scribe, but it may be for *atlas*; cf. M. *atlasmoode*. Note, however, A. *nd-ôdabi* 'I rest,' from *ôdab* = \sqrt{atb} in P.

Numuk 'a while'; I can find no cognate.

Olli-wulithatm'n; *o* = 3 p. + \sqrt{lli} = *elli* continued action + *wulithatm'n*; cf. s. v. *olithotm'n* XVI.

Lokesin 'lay, place'; perhaps contains same root as M. *pejaaluk* 'put in'; *kakwaaluk*.

N'tasnumelok 'in my lap'; *n* = 1 p. + *t* infix before a vowel + *asnumel* (?) + loc. *-ok*.

K'tap 'thy head'; *k* = 2 p. + *tap* (properly *tup*) 'head.' Cf. XVII, s. v. *wunyang'n*.

Quenl'n 'Let me pick out the lice.' In N. *yekwo-og* = 'lice.' This is probably cognate with \sqrt{qu} in *quenl'n*, as is possibly also M. *nookumase* 'to cleanse from lice.' I suppose that the form *quenl'n* has a 2 p. pref. *k-* assimilated to the *q* or *k* of the root. The *-l* = 1 p. as in *kmusalel* 'I love you' and the *-n* is perhaps cohortative; 'let me' (?).

Otequik 'he fell asleep'; *o* = 3 p. + *t* infix before vowel + \sqrt{que} = N. *kowen* 'sleep'; A. *kawi*.

Kchichiton 'she (he) knew it'; cf. XXI, s. v. *w'kchijiton* and IX, s. v. *w'kuchiton*. In *kchichiton* the root *kchi* is reduplicated + the inan. *-ton* = 'it.'

W'tepit; lit. 'his woman'; *epit*, XXIII. Here *w* = 3 p. + infix prevocalic *-t-*.

Wechi-n' klat 'that she had won'; *wechi* = past; lit. 'after'; cf. A. *weji* 'after.' For $\sqrt{n'kl}$, cf. XX, s. v. *neklat*.

XXII. *Elitpiyak* 'what had happened'; *eli* 'how what' + *tpi* = A. *tabi* and M. *tedaboo-desk* 'to happen' + inan. -*ak*.

Wikquetowan 'he takes them'; cf. s. v. *wiquet*, IV.

Eplesebisijil; note the loss of the initial *n-* in this form = 'with respect to *Neplesebisit*,' denoted by the obv. *ijil*. *Neplesebisit* is itself a participial form.

Otatapyit 'his bow'; *o* = 3 p. + intervocalic *t* + *atap* 'bow' = A. *tóbi*, A. *abe*, N. *atomp* 'bow' + *yil*, pl. inan.

Opaguyil 'his arrows'; *o* = 3 p. + *paqu* = A. *pakua* 'arrow' + inan. *yil*.

W'natotelwan 'he missed him'; *w* = 3 p. + $\sqrt{\text{nató}}$, perhaps M. *nentowáe* 'miss the road' + a second element *tel*, which seems to mean 'propel' + *wan* = anim. 'him.' Note that the element $\sqrt{\text{tel}}$ appears in *omiyowtelwan*, just below.

Amsquas 'at once.' Probably = *anguotch*, II, q. v.

Ethigetopelhal 'he fired it'; cf. XV, s. v. *ethi-higeligel*, of which root this form is clearly an extended combination.

W'telhigan 'his thigh'; *w* = 3 p. + intervocalic -*t*- + *elhigan*, probably cognate with M. *múlgoon* 'thigh' (?).

Omiyowtelwan 'he hit him.' See s. v. *w'natotelwan*, above.

Wetta-miktequhit 'he awoke.' *Wetta* seems to indicate the past action like *wechi* + *mi-ktequ* = M. *tooged*; A. *tóki* 'awake,' all containing stem \sqrt{k} or \sqrt{q} , denoting 'sleep' + participial -*it*.

XXIII. *Nemyot*; $\sqrt{\text{nem}}$ 'see' + participial *yot* = 3 p. 'when he saw.'

Wechkokawchijik 'them coming from there' (expressed by *wech* 'from, after') + participial pl. -*jik* 'them.'

Epit 'woman.' See above XXI, s. v. *w'tepit*. This word = M. *ábit* is a participle in -*it*, and probably means 'that which is split or torn,' an illusion to the *fudendum muliebre*. The root $\sqrt{\text{ep}}$ must be identical with $\sqrt{\text{ik}}$ in *Ojibwe*: *ikwe* 'woman'; Del. *ochqueu*, to which stem has been added the sibilant in N. *squaas*, whence our Eng. *squaw*; cf. also Cree *iskayoo*. The stem denoting 'woman' appears with *p* also in A. *p'hanum* 'woman,' which is no more a corruption of the French *femme* (Trumbull, N. D. 344, B) than it is of the Turkish *hanum*! The *k*-element = 'tear, rip' appears in several Algonquian dialects; thus N. *nehnákinnum*, Oj. *tash-ki*, etc.

Li; asseverative particle 'indeed.'

Nigan-bo '(was) ahead.' *Nigan* 'ahead' = *neganu*; A. *nikóniwi*; N. *negonacu*, all of which = precedence. The ending -*bo* is probably an abbreviation of *abo* 'he (she) stands, is placed.'

Memhowinesett; cf. s. v. *memhonesett*, XVI.

Pechiwesek, also in XXVI, must mean 'wind blows hard.' The stem here is $\sqrt{\text{chewes}}$ = M. *oochoosun*, as in P. *wutchow'su* 'the north-wind.'

Agum'tek 'stopped'; probably = A. *akw* 'stop' in *akwoldmsen* 'the wind stops' and M. *wontak* 'still, quiet' + $\sqrt{\text{ek}}$ = the 3 p. suffix.

Elwide = *elwi* 'almost' as *elwe*, II. + particle *de* = *te*.

Kisi-kap-wiw 'she (he) cannot stand.' *Kisi* 'can, could' + $\sqrt{\text{kap}}$ = N. *kompau* 'he stands erect'; M. *kakume* + *wiw*, the negative particle.

Weji 'after' = *wechi* in *wechi-n' klat*, XXI.

Kisi-pemitekquat; *kisi* = past + *pemitek* = A. *pamih' lömuk*, M. *pem-tëskum* 'pass' + participle 3 p. *at* 'he passed her.'

Oneklan 'he won over her.' Cf. XX and XXI, s. v. *wechi-n' klat*.

XXIV. *Sakem* 'chief' = N. *sächim* 'king'; A. *sögmö*; M. *sakumow*; Del. *sakimau*, from which N. and Del. forms come the Eng. loan-words "sachem" and "sagamore."

Wisikilwehe (?) 'he was very angry'; *wi* = 3 p. + *sik* 'be angry'; cf. N. *sekenam* 'he hates,' and note also *sigimikyik*, XXV. As to the syllables: *-wehe* in *wisikilwehe*, I cannot judge, as the manuscript is indistinct here.

Mech-che (?); the *che* is unclear, but *mech* undoubtedly = 'yet, not yet' = M. *mäch* 'yet.' Cf. s. v. *mesqu*, XXVI.

Kata, shorter form of *katama*, XXIII.

K'mesnawiwu; *k* = 2 p. + $\sqrt{\text{mes}}$ 'find, get'; cf. VII, s. v. *meske-motit* + negative ending, 3 p., *-wiwa*, as in *kisikapwiw* above.

Ndos 'my daughter'; *n* = 1 p. + *dos*, cf. XX: *n'toset*, obviative. Here it is not obviative, as the verb is not in the 3 p.

Ansachyakisteyek 'we challenge you'; with *an* = *n* of the 1 p. pl. exclusive. The stem $\sqrt{(\text{sa}) \text{cheyakis}}$ = M. *chögooye* 'to challenge' + *ek*, pl. an.

Matnetoltyiqu 'that we fight' = M. *mätün-äägä* 'to fight' + 1 p. pl. inclusive participle *-iqu*.

Omagueman 'he gathers them'; *o* = 3 p. + *magu* 'gather'; cf. VII, s. v. *omagueotonia* + anim. *-man*.

Oskitap, 'his men'; *o* = 3 p. + *skitap* = N. *wosketomp*, from *woske* 'young' with *-omp* = an erect being. This ending *-ap*, *omp*, *äba* is common to all the Algonquian idioms. Cf. A. *aln-äba* 'man,' whose element $\sqrt{\text{aln}}$ appears also in M. *ul-nooe* 'man.'

Omatneggonia 'they fight' = $\sqrt{\text{matn}}$ 'fight,' seen in *matnetoltyiqu* + the refl. *-on* + pl. *ia*.

XXV. *Ometapeguinom* 'his warriors'; *o* = 3 p. + *metapeguin* 'warrior,' XVI + poss. *-om*.

Mesqu; cognate with *mech*, XXIV 'yet,' but here = 'not yet.'

Mesmesnemotiqu 'that they could find' (get at); $\sqrt{\text{mesmes}}$ reduplicated stem = 'get' + *nem*, inan. + *tiqu* 33 p. participle.

Otolwa 'their canoe'; *o* = 3 p. + *tol* 'canoe' + 3 p. pl. *-wa*. See above on *eguidn*, XIII.

Kisi-etquetekwan 'they cut them off'; *kisi* = past + *et* = continued action + *quetek*, probably = M. *apshwisum* 'cut a knot' = 3 p. pl. *-wan*.

Machephotinek = participle $\sqrt{\text{mach}}$ 'go,' as in XVI + pl. an. *-ek*.

Ansabemitimikwak 'let us go around'; *an* = 1 p. *n'* exclusive + *bemi* = A. *pami* = continued action used in verbs of going + *kw*, usually used of turning in Algn.; cf. M. *kewoskaase*, N. *quinnuppu* 'turn aside' + *wak* = 3 p. animate.

Sigimikyik 'they fight hard'; $\sqrt{\text{sig}}$ = N. *sioške* 'hard, difficult'; also in A. *sigōdamwōgan* 'unwillingness' and *sigū'la* 'it is empty' + pl. an. *-yik*. Cf. s. v. *siktehok-hetwo*, XXVII, and s. v. *wisikilwehe*, XXIV.

Wutchow'sen'l; note the obv. *-l* after the verb 'say' = 'say to him.'

Tanetch; *tan* the usual relative or interrogative *-etch* has force of 'whatever' here.

K'telokanen; *k* = 1 p. pl. inclusive here + intervocalic *-t-* + $\sqrt{\text{el}}$ 'do, make,' as in IV, s. v. *k'telyan* + *ok* inan. = 'it.' Cf. XV, s. v. *k'tli-clok*. The ending *-anen* = 1 p. pl.

Elokiyiqu; $\sqrt{\text{el}}$ 'do' + *ok* inan. + *iqu* 1 p. pl. inclusive.

Chowichliya 'must be done quickly'; *chowī* 'must' = A. *achowi* + $\sqrt{\text{ch}}$ 'quickly,' seen in IV, s. v. *ktuchicht* 'swiftly.'

XXVI. *Nteguichi-isah-musimak* 'I will hold them all off.' The manuscript is not clear; *n* = 1 p. + intervocalic *-t-* + *eguechi* = A. *agnachi* 'in such a way, thus' + *isah* = M. *esā-gweegā* 'restrain' + *musi*, probably = A. *mi-wi* 'all'; N. *missi* 'all' + pl. an. *-ak*.

Onemhowi; *o* = 3 p. + *memho* 'open'; cf. *memhonesett*, XVI.

Nisan 'two' from *nīs* 'two,' probably inanimate.

Teguite 'indeed.'

Witn'l; lit. 'noses'; cf. s. v. *witnaleq* 'nostril,' XVI.

Tullamsno, with negative *-o* and *etutlamssek* with inan. *-ek*; $\sqrt{\text{tut}}$ probably means 'violently' + *lams* 'blow'; cf. *k'toklamsokiyik*, XVI + inan. *-n*.

Epsiyik, pl. of *epur*, 'tree, wood'; IV, s. v. *epusyeyak*.

Apoch indicates the indeterminate vowel between *p* and *ch* in *apch* 'again,' IX.

Kelkesolltowek 'they (-ek) were blown over'; lit. 'thrown down by the wind,' probably = M. *eliga* 'throw'; note M. *kawiga* 'throw down.'

Ayayot + *inan*. -*el* = distracted form of *yot* 'this'; also *ayotel*, XXVII. Cf. III, s. v. *yotel*.

Penapskol 'rocks'; *inan*. pl. -*ol* = A. *pamapskak* 'rock.' This is the root of the name of the Penobscot tribe: 'from a rocky territory.'

Abgulamsek; \sqrt{abg} 'throw flat' = A. *abagi* 'flat' + \sqrt{ams} 'blow' (wind), as above in *tutlamsno* + *inan*. -*ek*.

XXVII. *O-saw-mi*; an error. The writer has inserted the Eng. 'saw,' translation of *onemya* 'he saw them'; \sqrt{nem} 'see.'

Siktehokhetoo; apparently a pl. an. with -*ok* + the participial -*het*. \sqrt{Sik} as in *sigimikyik*, XXV.

Keplamsokhetilit 'them being numerous blown over.' \sqrt{Kep} = A. *kpagi* 'thickly, entirely' + *lams* 'blow' + *ok*, pl. anim. + *etilit* 'they being.'

Epussih, probably obv. pl. of *epus* 'tree'; cf. XXVI: *epsiyik*.

Pemlamsekil; \sqrt{pem} = continued action + \sqrt{lams} 'blow' + -*ek*, *inan*. + *il*, *inan*. pl. The whole is a participial adjective; i. e., 'blown about' (= *pem*-).

Wakeswuk 'a few' = A. *wakaswak* 'few, several.'

Esqutohofik 'escaped'; partic. with an. pl. -*hofik*, pl. of -*hot*; \sqrt{esqu} possibly connected with N. *sohqui* 'in small pieces, fine.' The stem \sqrt{sq} seems to mean 'break up,' seen also in A. *poskwutahomuk* 'cut with an axe'; *poskwatwomuk* 'break by stamping,' etc.

Wesweppoh'tijik 'they gave it up'; *w* = 3 p. + \sqrt{eswep} , connected with M. *eskwaado* 'leave, abandon'; *eskupuk* 'leave' + pl. an. partic. -*ijik*., pl. of -*tit*.

XXVIII. *W'sankewi-machhanya* 'they started for home'; *w* = 3 p. + *sankewi* = A. *sankhi* 'inception, beginning,' as *sankhitegua* 'entrance to a river' + *mach* 'go' + *anya* = 3 p. pl.

Wecheyowultitit; *weche* 'afterwards' + \sqrt{wul} ; element 'good,' seen in *wuleywul*, III, + 3 p. partic. -*titit*.

XXIX. *Mettabekso* 'end' = A. *mat* 'end,' as in A. *matanaskiwi* 'finally'; *matogamak* 'at the end of the lake'; N. *maktoau* 'he finishes speaking.' The element -*bek*- appears in M. *eskwobek* 'end,' but this may be *inan*. -*ek*.

Elathoket; *el* = *eli*, rel. particle + \sqrt{athok} 'relate,' seen in M. *atook-wokun* 'narrative.'

Plansoe = French *François*; in Canada pron. *Françoe*.

Wulastegue 'the good river' = St Johns river.

W^ocheye 'he is from there'; *wechi* 'from, out of' + verbal element

-*ye*. The usual idiom for tribe or origin.

COLUMBIA UNIVERSITY

NEW YORK CITY

THE EXCAVATIONS AT EL RITO DE LOS FRIJOLES IN 1909

By EDGAR L. HEWETT

IN the account of the excavations at Tyuonyi in 1908,¹ a general view was presented of the archeology of the valley known as El Rito de los Frijoles (see map, fig. 106). A brief report of the continuation of that work in 1909 will now be given.

THE EXCAVATION OF THE "SUN HOUSE"

The work of the past season commenced with the excavation of the talus houses, on the slope just north of the great community house, heretofore designated by us as Group E.² Excavation disclosed the fact that this group consisted of two distinct villages. The first of these occupies the eastern portion of Section E and lies at a much lower level than the western part. The whole of it is plainly shown in the panoramic view in the paper above referred to. It lies just back of the great community house and is reached by a trail which passes up a ravine to a landing at the west end of the terrace on which the house was built. From the same landing a stairway trail to the left leads up to higher levels, back of the group of conical rocks known as "The Needles," to the second village group excavated by us this year and named the "Snake House."

The Sun House was so named on account of the prevalence of the sun symbol on the face of the cliff above it. This symbol consists usually of an etching of concentric circles and in most cases appears to have been painted red. The roughly crescent-shaped terrace on which the house stood is 150 feet long; its width varies from 10 to 50 feet. The western half of the terrace is only wide enough for a walk in front of the house, but the eastern half widens to a broader ledge which formed a small plaza. This plaza terrace

¹ *American Anthropologist*, vol. XI, no. 3, 1909.

² See maps, plans, and photographs in the report cited, being *Papers of the School of American Archaeology*, no. 5.



FIG. 106.

is about four feet higher than the level of the walk (see plan, fig. 109). Both terraces are supported by retaining walls of unshaped tufa blocks.

The appearance of the ledge at the beginning of the work is shown in figure 107. Previous to excavation, no house walls were visible above the talus. This is one of the problems in the study of the talus towns. The condition of ruins in the valley, or on the open mesas, is easily explained. Houses several stories high may crumble to the earth, and the natural drift of soil, atmospheric deposit, climatic action, and the advance of vegetation, may convert the site in the course of a few centuries to grass-grown mounds. But, with the talus houses, there is the shelter of the cliff rising in some cases to hundreds of feet above the ruins. In some instances there have been slides of heavy rock masses from above, detached by natural weathering, or perhaps seismic disturbances, to cover the buildings. But usually the mass which constitutes the talus ruins consists of only the débris of their own walls, covered with the detritus of natural disintegration of the cliffs, and atmospheric deposits, varying with the situation of the ruin with respect to shelter. There is too a considerable wash of soil from the talus slopes, tending to keep down the amount of accumulation. Yet, buildings from one to four

stories high have crumbled into the talus slopes, and have been so smoothed off that all appearance of ruined walls is wanting until laid bare by the spade. While these are conditions that do not, as yet, afford any accurate basis for estimate, they must be given due weight in any consideration of the time element in this culture.

The Sun House is the smallest of the talus villages that have been cleared. Before excavation, eleven cave rooms were visible at varying levels above the talus (see fig. 107, and fig. 109, rooms 1



FIG. 107. — The Sun House — Beginning of excavations.

to 10). These were for the greater part back chambers of the house built against the cliff. They were nearly all on second or third floor levels.

Excavation laid bare all rooms shown on the ground-plan from *A* to *P* inclusive. These are also on different levels. Rooms *A* to *K* are in alcove form; they were mostly first and second floor back rooms, made by excavating the base of the cliff, the front of the rooms and in some cases part of the sides being house walls of masonry. These alcove rooms were not always on exactly the same level as the constructed rooms in front. The rooms from *L* to *P* were built entirely in front of the face of the cliff. It is probable that these had no superimposed stories and that all the alcove rooms, *A* to *K*, had.

We thus have a total of twenty-eight rooms, exclusive of small alcoves and niches, such as are to be seen off 4, 6, *E*, *F*, and in the cliff wall between 9 and 10, figure 109. The original number of exterior rooms cannot now be determined. Owing to the irregularity of the cliff, the complete plan of construction cannot be traced. But it would be safe to estimate that the Sun House when occupied comprised from forty to fifty rooms of all classes; that is, cave rooms, those entirely enclosed in the natural rock walls; alcove rooms, those partly enclosed in cliff walls; exterior rooms, or those enclosed either wholly or in part by walls of masonry. Among the exterior rooms were doubtless some having only half walls separating one from another, some being nothing more than open porches. The following table of dimensions and relative positions may assist in an understanding of the building (see ground-plan, fig. 109).

No. of room on plan.	Size.	Height.	Position.
1	5' 9" × 7' 6"	4' 6"	6' above <i>A</i>
2	6' 6" × 9'	6'	9' " <i>K</i>
	(<i>K</i> is 7' above <i>B</i>)		
3	7' × 7'	5'	12' " <i>C</i>
4	7' × 5' 6"	5'	7' 6" " <i>E</i>
4 α	5' 6" × 8'	5'	7' 3" " <i>D</i>
5	Not determinable		1' 6" " 4
6	6' × 6'	5'	12' " <i>G</i> , 3d story
7	6' × 8'	4' 3"	6' " <i>H</i>
8	5' × 5'	4'	6' 6" " <i>I</i>
9	6' × 10'	5' 6"	7' " <i>J</i>
10	6' × 8' 6"	4'	5' " Terrace, on level with <i>J</i> .

3 is much higher than 4 α . The apparent connection is misleading.

Some of the rooms have the usual appurtenances of domestic life, such as fireplaces, niches, and storage alcoves. The cultural remains recovered consist of articles of stone, bone, wood, and clay. A special paper will be devoted later to a description of material found in the excavations for both 1908 and 1909. All rooms present the usual appearance of living rooms with the exception of *B*.

This room, about 8 by 8 feet in dimension, was almost subterranean. It was sunk in the rock ledge a considerable depth below the surrounding rooms and had the appearance of having been the clan kiva. It is the one in which the lower ladder rests in figure 108. The upper part of the wall was probably completed by a few courses of masonry, giving the room a depth of from 7 to 8 feet. The floor of room *K*, above and back of *B*, was only a step above the roof of the latter. *K* was an alcove room, three sides formed by the cliff wall, with probably an open or half-walled front. Above *K* was room 2, its floor about at the roof level of *K*. It could have been entered from



FIG. 108. — The Sun House, after excavation.

the roof, or by means of a ladder through the roof of *K*. A porch may have been built in front of 2 on the roof of *K*. Room 2 is equipped, as *K* and *B* are not, with fireplace, niches, and storage alcove. It was evidently the main living room of the group.

We have here an interesting assemblage of rooms. At the bottom, a kiva, adequate only for the use of a small clan. Above this, an open room, the clearing of which yielded some objects of a

room or rooms completed the dwelling, which, from the arrangement with respect to the kiva, and the ceremonial material found there, I have called the House of the Priest. Arrangements not unlike this are to be found among the Pueblos at the present time.

THE EXCAVATIONS OF THE SNAKE VILLAGE

From the landing at the base of the cliff from which the stairway turns to the right to ascend to the Sun House, another stairway turns up to the left to the western section of group E, which,



FIG. 110. —The lower or right-hand section of the Snake Village.

after clearing, we named the House or Village of the Snake People. The cliff is here so irregular that no plan of the village is possible. The line where the talus meets the wall rises steeply from the common landing between the two villages, with ruins of cave houses all along (figs. 110, 111), until the apex is reached, about two hundred feet to the west. The chambers at the top are at least sixty feet higher than those nearest the landing. The highest rooms are those at which the upper ladder is seen in figure 111. From here the slope breaks away precipitously to the left for a distance of about two

hundred feet, which can be passed only by means of long ladders and stone stairways. No cave rooms exist along this line of cliff base, but the foot of the trail terminates at a landing about eighty feet lower down, directly in front of the largest cave kiva that has been found. This is not now considered a part of the Snake House group, and will be described separately.

The slope from the Snake House to the valley is so broken and precipitous that almost no talus exists there. Only at the point shown in figure 110 is there any ledge upon which rooms could be built exterior to the cliff. Here were outside rooms partly cut from



FIG. 111. — The upper or left-hand section of the Snake Village.

the rock and in part built with artificial walls. There is room only for a rock stairway leading to the upper section shown in figure 111. Such is the ruggedness that only open porches could have been built in front of the cliff chambers at this level. As there is but little to tell about this part of the Snake House group, it will be finished at this point.

All the cave rooms were cleared and ladders constructed, both

inside and out, so as to make them accessible. They are at different levels, and at some places two-story verandahs have existed in front. All the rooms between the two ladders shown in figure 111 have interior connection. There are seven in the series. The passage-



FIG. 112. — The Snake kiva.

ways in front were excavated, and from the highest rooms one looks down upon a singular foreground. The slope has been sculptured by wind erosion into a grotesque group of cones and cylinders. Some of the conical masses (Tewa: *ndundungi*, "tent rocks") are of great size. From the valley below the entire village is almost hidden from view by them. Directly in front of the section where the ladders are seen (fig. 111) is a circle of cylindrical columns enclosing one central shaft. There is some appearance of artificial shaping here, and the place strongly suggests use as a shrine. Such a freak of nature could not fail to impress the Indian mind with superstitious awe.

The upper section of the group is interesting mainly for its unique situation. The lower section affords much more that is

instructive. The central feature of the group is the Snake kiva. Its position is shown in figure 110. It will be better understood by reference to figure 112. This is of the class that we have named "cave kivas," it having been enclosed entirely within the walls of the cliff. A considerable part of the front has fallen away. Vestiges remain of the main entrance, which was at about the center of the southern side. To the right of this are to be seen traces of the ceremonial opening which exists in all the ancient kivas of the Pajarito plateau. The shape of the room is that of an irregular oblong (see plan, fig. 113). Upon the floor plan will be noticed

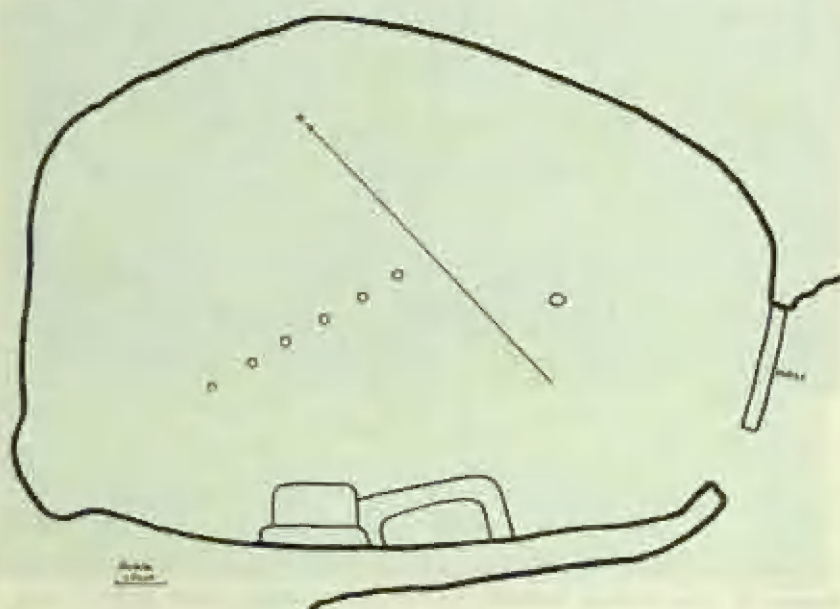


FIG. 113. — Ground-plan of Snake kiva.

a row of holes, a feature to be found in the floor of nearly every kiva that has been examined in this region. These holes vary from 3 to 5 inches in diameter and from 6 to 12 inches in depth. They are placed in a straight line at a distance apart which varies but slightly in the different kivas that have been excavated. This distance will average about 12 inches. The number of holes is always six or seven. In this kiva there is but a single row. In a

number of others there are two rows forming an angle the degree of which is variable (figs. 115, 116). In a number of cases these holes have been found partially filled with adobe mortar. In some this filling has been found intact, and set into it deeply and firmly, so as to be removed only with difficulty, is a loop of willow or other tough flexible wood. These loops extend but very little above the surface of the floor. In another paper, one on the excavations at Puye, will be shown a view of a floor in which the row of loops remains undisturbed. Their function is unknown to us, and at present no theory is proposed as to their use. It is not to be understood that these rows of holes in the floors of Pajaritan kivas were in all cases filled with mortar and held the loops of willow as above described. It is almost certain that in some instances where two such rows existed in the same floor one of them contained pegs or small posts which appear to have had some ceremonial use. Another hole, isolated from those in the rows, is found in the floor of nearly every kiva (figs. 113, 115). In this a post was set. It always occupies a certain position with reference to the ceremonial opening in the kiva wall through which the sun's rays, entering and falling upon the post, produced a shadow which served to mark certain important divisions of time. The use of this sun mark in the kiva is yet to be worked out in detail. That it had such a function I have been informed by a trusted Tewa who occupies a position of priestly character in the village of Santa Clara.

The walls of the kiva are covered with a dense coating of smoke which partially obscures the mural decorations. A dado painted in red to a height of about 40 inches extends around the entire interior wall. Above this was a frieze, about twelve inches wide, in which there is to be seen rather dimly a painting of the great "Plumed Serpent," which is the feature upon which this has been identified as a Snake kiva. The entire painting is now so thoroughly blackened that its original color cannot be ascertained.

There are other facts which aid in the identification of this as a Snake kiva. Small etchings of the Plumed Serpent are found under the successive washings of color upon the wall. In the small alcove seen in the photograph (fig. 112), just to the right of the kiva, a very interesting deposit of ceremonial objects was found.

No final study of this material has yet been made, but among the specimens recovered are numerous fragments of what has been identified as the framework upon which was constructed the "Magic Snake" used by the priests in connection with certain occult ceremonies as at present among the Hopi. From the various evidences found we conclude that here again in the group of rooms adjacent to the kiva we have the dwelling of the priest who had charge of the rites of this sanctuary.

Some distance above and to the left of the kiva, in a small alcove, was found the best specimen that has been recovered illustrating the mode of burial here practised (fig. 114). On the floor of



FIG. 114. — Cave burial, Rito de los Frijoles.

the cave, and covered to a depth of about two feet in the volcanic ash, was found the desiccated remains of an individual that had probably just about reached the age of maturity. The body was placed upon the face, with the head in a westwardly direction, and folded in the position to which we have heretofore referred as the "embryonic position," that is, with the knees drawn up against the

chest in the position of birth. The skeleton was almost completely articulated. The body was first wrapped in a white cotton garment, which was probably the dress worn during life. It is of firm texture and excellent weave, and large portions are found in a good state of preservation. The outer wrapping of the body was a robe of otter or beaver fur. The final identification of this material has not yet been made. The robe was made by first twisting a small rope of yucca fiber about an eighth of an inch in diameter; then with the shredded fiber of the eagle or turkey feather, the fur was bound upon the cord, producing a fur rope of about a quarter of an inch in diameter which was then woven into a robe with very open mesh. It seems probable that this was the customary mode of wrapping the dead, but as the majority of interments were in cemeteries in the open, the wrappings are for the greater part decayed. Many fragments have been recovered in connection with the cemetery burials, but not until the crypt burials of the talus villages were discovered was the material found in good state of preservation. The significance of this mode of burial is discussed in detail in a paper on the excavations at Puye to follow this immediately.

THE LARGE CAVE KIVA

The situation of this sanctuary (fig. 115) was mentioned above. As it is not embraced within the bounds of any village, but stands completely isolated, it has been conjectured that it was designed for tribal rather than for clan use. It is almost circular in form, and entirely enclosed within the walls of the cliff. Of such size is it that our entire force of Indian workmen, numbering as many as eighteen at a time, have found in it ample room for sleeping. As it is the best example of its type that has been discovered, it was deemed best both to put it in condition to prevent further deterioration and to restore it as an example of this form of sanctuary. Accordingly, the floor was cleared, and the vestiges of the rows of loops described in connection with the Snake kiva were discovered; also the remains of the fire-pit, or sipapu. The position of the altar is determinable, as is also that of the ceremonial entrance and main doorway. The restoration of these features was therefore planned and the work commenced. Time did not permit of its completion. It will be finished at the beginning of next season's work.

THE GREAT CEREMONIAL CAVE

The most picturesque object to be studied thus far in the Rito de los Frijoles is the great ceremonial cave mentioned in the report of the excavations of 1908. This cave is situated at the upper end of the formerly inhabited part of the Rito, and about two hundred yards above the western end of group *A*. It does not, however,

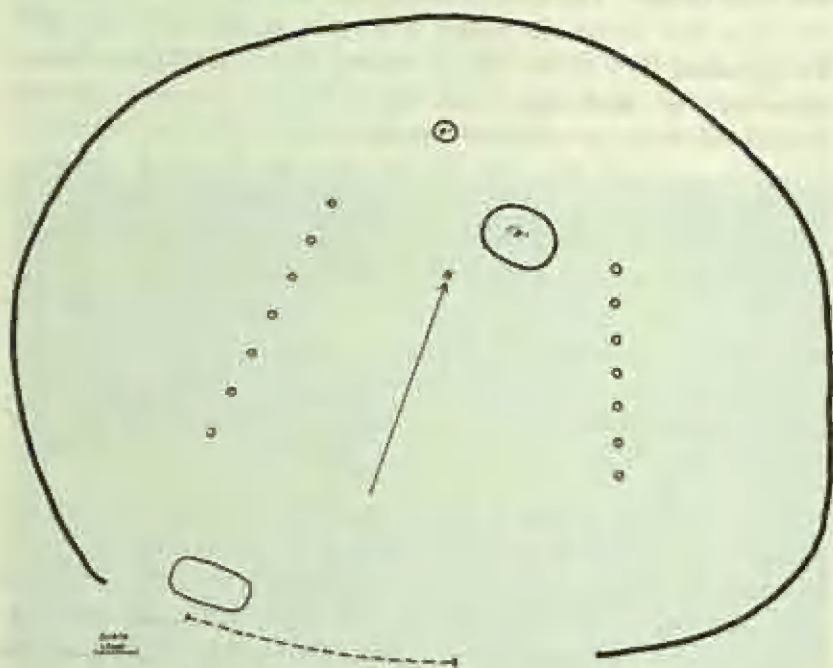


FIG. 115. — Ground-plan of the large cave kiva.

mark the upper limit of occupancy; straggling cave ruins are found several hundred yards farther west. On the bench across the creek, directly south, is the ruin of a small pueblo to which, following Bandelier, has been given the name of the house of the Water People. The great cave (see fig. 91 of our previous report) is 150 feet above the water of the creek. Mr Nusbaum has made it accessible by the building of about 90 feet of ladders and 200 feet of rock trail and stairway. The first ladder, 25 feet in length, is placed at some distance to the left of the cave, and by means of this

a level is reached along which, by the cutting of a trail in the rock, and the building of strong hand-rails and a stairway mounting to a height of another 25 feet, the landing is reached upon which is placed the second ladder. This is 40 feet in length and leads to another landing along which a trail is built to the foot of the upper ladder.

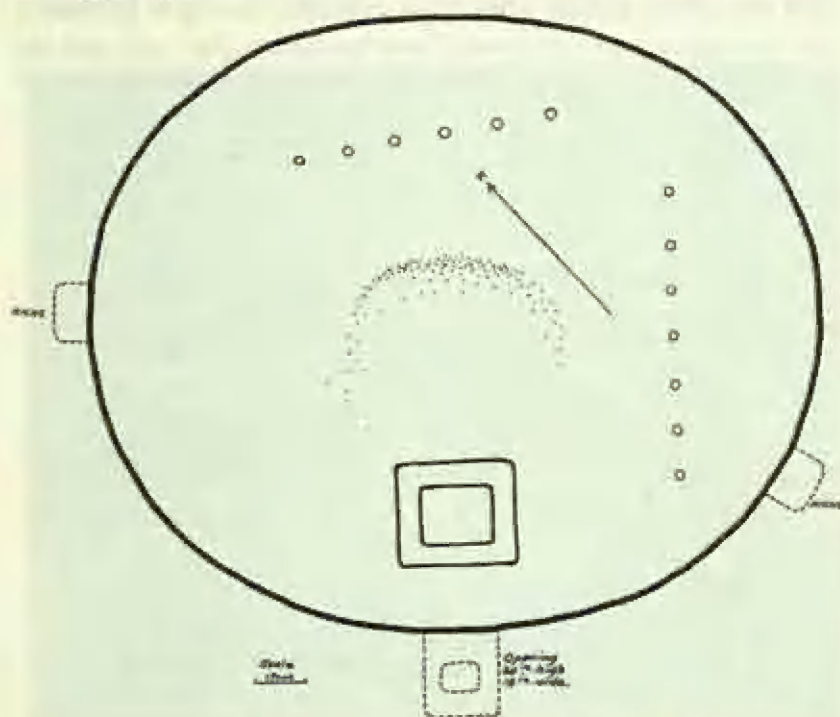


FIG. 116. — Kiva in ceremonial cave, Tynonyi.

This is 25 feet long and reaches a point from which a path has been constructed to the floor of the cave, 30 feet above.

The buildings which formerly occupied the cavern are entirely destroyed, but their foundations are still to be traced, as is also the imprint of their walls upon the roof of the cave. The excavation of the floor has not yet been undertaken, and when done it is possible that the results now presented may be modified. However, the evidences are fairly distinct and have afforded the basis for Mr Chapman's reconstruction shown in figure 118. The buildings were

constructed of stone, some one and others two stories high, with excavated chambers at the back. The roof of the cave formed the roof of the second story, as shown in the reconstruction. The plan as worked out gives a total of twenty-two rooms in the pueblo occupying the cavern. It seems likely that additional rooms occupied the eastern quarter of the cave, but this remains to be verified by excavation. The restoration here presented (fig. 118) and the ground-plan (fig. 117), being tentative, are subject to alteration and

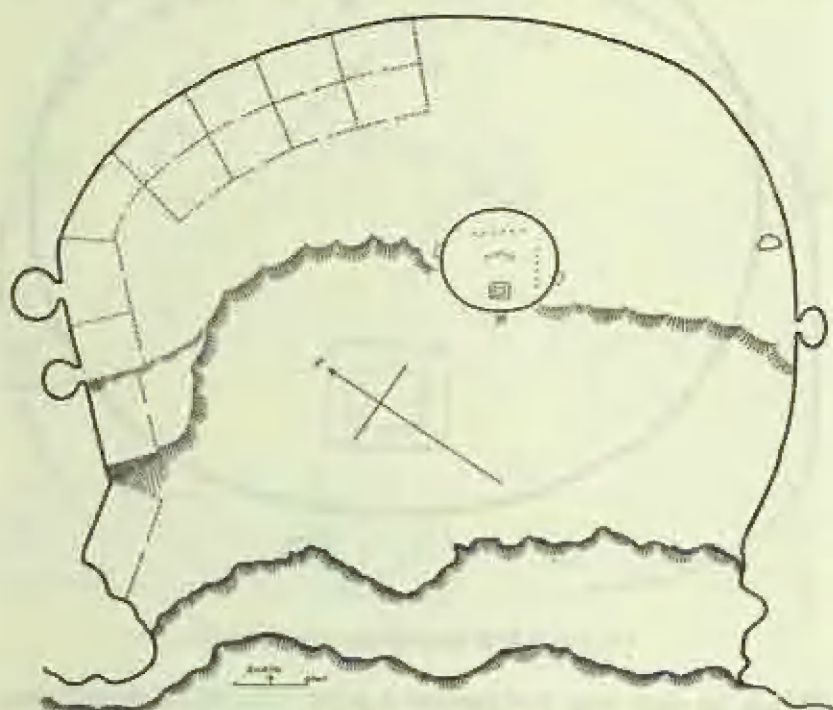


FIG. 117.—Ground-plan of ceremonial cave.

completion as the work is continued. In the floor of the cave is found one of the best preserved and best constructed kivas of the entire region. The excavation of this is referred to in the previous report. Note, in the ground-plan (fig. 116), the position of the ceremonial entrance, the altar, and the row of holes in the floor.

STUDY OF MYTHOLOGY AND LANGUAGE

In the summer of 1908 Mr John P. Harrington, then working as a volunteer assistant, commenced a systematic study of the Tewa language and myths, using for his informants the Indian workmen employed at the excavations. This was continued during the pres-



FIG. 118. — The great ceremonial cave, with buildings restored.

ent season. The long-continued and friendly relations existing between the Indians and our field parties have created conditions favorable to the gaining of information which could not be had at the pueblo. As it has been evident that a reëxamination of the languages of the Pueblos was needed, and as the facilities for such study were now at hand, the work was inaugurated.

The Piro and Tano have been examined and reported on,¹ and

¹ *Papers of the School of American Archaeology*, nos. 8 and 12 respectively.

a beginning has been made on the Jemez-Pecos. Some work needed for information on the archeological sites under investigation has been done on the Keres. The obsolete dialects are being properly related to the living languages, and through this medium the ethnology and history of the peoples are being investigated. The study of Tewa geography has been particularly fruitful.

Mr Harrington's linguistic investigations, carried on concurrently with the archeological work, open up new lines of interest and fully justify the establishment of this branch of ethnological research as an auxiliary of archeology. Already the results point to important conclusions concerning the value of tradition. As has been pointed out by the writer in former papers, the Pueblos habitually lay claim to ancient sites as the homes of their ancestors, a frequent reason for this being their desire to establish rights to lands claimed under Spanish grants or under titles still more remote, going back in some instances to divisions that existed in the pre-Spanish period, based on the mutual understandings of neighboring villages, if friendly, or upon the right of the stronger if unfriendly. Such a case is that of the ancient site, the Puye, long claimed by the Tewa of Santa Clara as their ancient home, the error of which has been fully shown.¹ Such claims long maintained, for this or any other reason, finally gained all the weight of established tradition, and are repeated, especially by the younger people, with no thought of untruthfulness. It is interesting to note that while this ancient site was long held to have been their ancestral home, the name *Puye* (Tewa: "Assembling place of rabbits") is admitted to be a modern descriptive term and not claimed by them to have been the archaic name of the community at all. Of this they admit total ignorance, a fact quite inconsistent with the claim that their people came from Puye down to the valley only a short while before the Spanish occupancy.

Equally interesting is the case of El Rito de los Frijoles, as Mr Harrington finds it. The cañon which now bears this name has so been known to the Mexicans for many years, and is so known to the Keres. It has long been claimed as Keres territory by the

¹ *Papers of the School of American Archaeology*, no. 13.

Indians of Cochiti, who also lay claim to the land north of it, between the Rito and the Cañada Ancha, as ancestral ground. They know the Rito as "Tyuonyi," and trace their ancestry in unbroken succession back to this place, yet disclaim knowledge of the meaning of the name. In former years it was given by them as meaning "Place of compact, or treaty making." It would seem that this tradition was not so strong as the tradition of possession, for any Cochiti Indian will immediately give one the tradition of their former occupancy of the Rito. The Tewa hold that Cañada Ancha, known to them as El Rito de los Frijoles, is the true valley of the bean fields, and they give to the Cochiti Rito the name "Puwhige," an obscene name which I strongly suspect to be of modern origin closely connected with a contemptuous idea which they often express touching the morals of the Cochiteños. The Tewa acknowledge the Cochiti tradition of ownership of the Rito, though my first and apparently most trustworthy informant concerning the ancient occupants of the plateau towns, Weyima (Antonio Domingo Peña), Rain Priest at San Ildefonso, would never admit the tradition that ancestors of the Cochiteños, except certain clans, ever lived in the Rito. He always claimed rather minute traditionary knowledge of the ancient peoples of the Pajarito plateau southward to Tchirege on the Pajarito creek, and held that no one living could tell anything of those farther south on Mesa del Pajarito.

Turning to the cultural evidence, it is to be noted that nothing of modern Cochiti is to be seen in the ruins of the Rito except occasional surface potsherds, possibly results of breakage during temporary visits in recent years. No systematic comparison of the cultural material from Puye and the Rito has been made. Superficially no differences are noticeable, such as that prevailing in the pottery of modern Tewa and Keres, or between that of villages of the same stock, as Santa Clara and San Ildefonso, or Cochiti and Santo Domingo. In view of the rather confusing character of the traditionary information, a close comparison of the material found in the excavations at Puye and the Rito, as well as with that from the central group of ruins — Tchirege, Otowi, and Tsankawi — is awaited with much interest. Equally important will be a comparison of skeletal remains from the Rito with the somatic characters

of the modern Keres and Tewa peoples. It is hoped that the excavations of another season will bring to light sufficient material to permit of such study.

It must be admitted that an examination of the migration traditions of Cochiti, as given by Bandelier, Lummis, Harrington, and the writer, at intervals during the last twenty-five years, does not establish confidence in their historical accuracy. The traditions have been given with variations even by the same informant. The invariable element is that the Cochiti people have occupied and abandoned successively, a number of sites, beginning with Tyuonyi and ending with their present village. The number of sites given varies from five to seven. The entire list is as follows:¹

1. *Ty'u'onyi háarcitit^a* (*ty'u'onyi*, unexplained + *háarcitit^a*, houses). The settlement in the Rito de los Frijoles.
2. *Mók'atc' qéwete háarcitit^a* (*mók'atc'*, mountain-lion, + *qéwete*, crouching, + *háarcitit^a*, houses). The Pueblo of the Stone Lions on the Potrero de las Vacas.
3. *K'áthetyam^a tsityat'tanc, k'a'matse* (*k'áthetyam^a*, cave, + *tsityat'tanc*, painted, + *k'a'matse*, settlement). The settlement at the Painted Cave, in the Cañada de la Questa Colorada.
4. *Ryá'tc' k'a'matse crúma* (*ryá'tc'*, cottontail rabbit, + *k'a'matse*, settlement, + *crúma*, ancient). The pueblo on the Potrero de San Miguel, south of the Cañada de la Questa Colorada.
5. *Qóapa háarcitit^a* (*qóapa*, the Cañada de Cochiti, + *háarcitit^a*, houses). The village in the lower Cañada de Cochiti, below the Potrero de los Idolos.
6. *K'ótyit^a háarcitit^a* (*k'ótyit^a*, unexplained, + *háarcitit^a*, houses). "Old Cochiti," in the upper Cañada de Cochiti.
7. Cochiti. The present village on the Rio Grande.

An examination of the known facts relative to the six sites antedating the Cochiti of to-day gives the following results:

1. Tyuonyi. The great community house, three small outlying valley pueblos, and the succession of talus villages in the cañon of El Rito de los Frijoles, together with the pueblo ruins on the rim of the mesa south of the Rito, all of which taken together appear to make up the ancient settlement of Tyuonyi, would, if restored,

¹ Etymology by Harrington.

accommodate several communities of the size of Cochiti. Taken in connection with the multitude of "small-house" ruins on the adjacent mesas north and south, all of which may be considered closely related to the main Tyuonyi settlement, we have here a great focus of ancient population from which there might well have been thrown off from time to time clan groups sufficiently numerous to account for a number of Keres villages.

2. The Pueblo of the Stone Lions. This site is a few miles south of Tyuonyi, about three hours' march by the circuitous route that must be taken. It consists of a single great quadrangular community house, or group of houses, with some outlying cliff dwellings. Taking into consideration the closer grouping indicated in the ancient community houses, this may have been a settlement of several hundred people — may have been equal in population to the present Cochiti.

3. The Painted Cave. This is a very short distance to the south from the Pueblo of the Stone Lions — by the route now taken about an hour's march. At this place there was, besides the great ceremonial cave, a small cliff dwelling and talus settlement, corresponding in size to the clan houses of the mesas. It could never have been more than a clan village, never approaching the size necessary to accommodate a large community like Cochiti.

4. *Ryātc**, or *Hāats**. This site, to which both the above names have been applied, is on the Mesa de San Miguel, an easy hour's march from La Cueva Pintada. The Cochiteños are not clear in their traditions concerning this settlement, as is shown by the confusion of names. I am of the opinion that these are names belonging to two ruined villages on the same mesa, about a mile apart. Both are small. The first name, *Ryā'tc**, suggests the probability that this was a settlement of Rabbit clans. The other, *Hāats** (earth) may indicate a settlement of the Earth people. There is nowhere on this mesa any indication of a large aggregation of clans such as exist at the present town of Cochiti.

5. *Qóapa*. This site is perhaps two hour's march from *Ryā'tc**, though the air-line distance is very short. It is in the lower Cañada de Cochiti, under the brow of the high mesa known as the Potrero de los Idolos, which takes its name from another ancient shrine,

similar in some respects to the Stone Lions of Potrero de las Vacas. Qóapa is a small ruin having no traditional name, it being spoken of by the name of the valley (*Qóapa*, Cañada de Cochiti) in which it lies. It was a small place which never could have served as the home of such a community as Cochiti.

6. K'ótyit'. This site is also in Cañada de Cochiti, a few miles above Qóapa. It is the true "Old Cochiti." For this we have traditional evidence and the firm basis of documentary history. The place is well known to the Cochiteños as their home up to the time of its destruction by the Spaniards. For the authentic history of this period we are indebted to Bandelier.¹ After the destruction of Old K'ótyit' the present pueblo of the same name (now permanently corrupted into "Cochiti") was built on the banks of the Rio Grande. This town has probably nearly held its own in population since the removal. Knowing something of it from the time of the occupancy of old K'ótyit', we have evidence on which to estimate roughly the population of ruined villages from their present appearance.

As a result of this examination of the migration traditions of Cochiti we have the following conclusion: Of the six sites antedating the present Cochiti and claimed by the Cochiteños as their successive homes, in the course of some centuries of wanderings, three, the settlement at the Painted Cave, Ryá'tc^a or Háats^a, and Qóapa, could not possibly have accommodated more than small detachments of such an aggregation of people. They were probably clan villages, and the names Ryá'tc^a and Háats^a afford some confirmation of this. Two of the sites, K'ótyit' and the Pueblo of the Stone Lions, from their size and also other indications, could have been the homes of such a community. That the former was so is established by documentary history. The first of all, Tyú'onyi, the place from which Cochiti migration tradition begins, consists of a group of villages which, taken in connection with the large number of outlying ruins, could have accommodated many times the population of Cochiti.

The conclusions are thus adverse to the historic accuracy of the

¹ *Papers of the Archaeological Institute of America, American Series, Final Report*, part II, by Ad. F. Bandelier.

tradition of successive occupancy and removal from these six ancient sites in a body. It seems more probable that all these settlements contributed groups of population to Old K'ótyit', and that we are to see in these, together with the hundreds of other ruins, small and large, lying between Cañada Ancha on the north and Cañada de Cochiti on the south, the remains of ancient communities that contributed to the formation of all the present Rio Grande valley towns of the Keres stock. It must be borne in mind, however, that there is still much archeological work to be done before this can be declared a finally established conclusion.

The scientific force at the Rito excavations this year was in part the same as last year. The writer was personally in charge, and the assistants, besides giving constant aid in the general archeological work, had each some special responsibility. Mr Chapman attended to all map, plan, and restoration work. The reconstruction and photography were in charge of Mr Nusbaum. Mr Harrington's studies pertained principally to the languages and myths. Mr Lotave made the preliminary sketches in oil for the art work which he is now doing in the Rito de los Frijoles room in the Museum in Santa Fé. The excavating force consisted of a number of our Tewa Indians from San Ildefonso, several of whom have developed a skill and interest that make their part in the work a most effective and honorable one.

SCHOOL OF AMERICAN ARCHEOLOGY
SANTA FÉ, NEW MEXICO

PERIODICAL LITERATURE

CONDUCTED BY DR. ALEXANDER F. CHAMBERLAIN

[NOTE.—Authors, especially those whose articles appear in journals and other serials not entirely devoted to anthropology, will greatly aid this department of the *American Anthropologist* and the *Journal of American Folk-Lore* by sending directly to Dr. A. F. Chamberlain, Clark University, Worcester, Massachusetts, U. S. A., reprints or copies of such studies as they may desire to have noticed in these pages.—EDITOR.]

GENERAL

Aarne (A.) Zum Märchen von der Tiersprache. (Z. d. V. f. Volksk., Berlin, 1909, xix, 298-303.) Cites and discusses Finnish (A. notes 11 variants), Little Russian, Servian, Tatar (Caucasian), and Georgian versions of the tale of the language of animals and the learning of it by a man whose wife teases him to teach her, which he will not do.

Andree (R.) Johanna Mestorf zum 80 Geburtstag. (Globus, Braunschwg., 1909, xcv, 212-215, portr.) Account of life, scientific activities, publications, etc., of Miss Johanna Mestorf, curator of the National Museum of Antiquities in Kiel, the only woman to hold the title of Professor, conferred on her on her 70th birthday by the Prussian Government. She has also a gold medal for art and science from the Kaiser. She has been a frequent contributor to *Globus*.

— Ueber den Wert der Ethnologie für die anderen Wissenschaften. (Korr.-Bl. d. D. Ges. f. Anthrop., Braunschwg., 1908, xxxix, 66-71.) Discusses the value of ethnology for prehistory, archeology, philology, science of religion, psychology, history, jurisprudence, political economy, medicine, geography, art, music, practical politics, etc., pointing out interesting problems, contributions, etc.

— Den Tod betrügen. (Z. d. V. f. Volksk., Berlin, 1909, xix, 203-204.) Notes on "deceiving Death" (empty miniature coffins offered by Neapolitan mothers when children

are sick; change of name, etc., as among orthodox Jews).

Anthropology and the Empire: Deputation to Mr Asquith. (Man, Lond., 1909, ix, 85-87.) Report of presentation of memorial for establishment of an Imperial Bureau of Anthropology,—argument by Prof. W. Ridgeway, etc.

Audenio (E.) Il mancinismo. (R. Sper. di Freniatr., Reggio-Emilia, 1909, xxxv, 287.) According to A., true lefthandedness and true righthandedness are not so common as hitherto thought,—the righthanded and lefthanded in muscular strength, e. g., are not so for agility or duration of static contraction. Righthandedness for one thing, lefthandedness for another, occurs, within the group of righthanded and lefthanded, and even ambidexterity also. Ambidexterity (not lefthandedness) is atavistic in character.

Avebury (Lord) Sir John Evans, K.C.B., D.C.L., F.R.S. Born November 17th, 1823; died May 31st, 1908. (Man, Lond., 1908, viii, 97-98, 1 pl.) Brief account of life, scientific activities and publications. His most notable work was the *Ancient Stone Implements, Weapons, and Ornaments of Great Britain* (1872).

B. (E.) Frederick Thomas Elworthy. (Folk-Lore, Lond., 1908, xix, 109-110.) Brief account of scientific activities and publications of F. T. Elworthy (d. Dec. 13, 1907), author of *The Evil Eye* (1895), *Horns of Honor* (1900), etc.

- Backman (G.)** Om människans utveckling efter människoblivandet. (Ymer, Stockholm, 1909, XXIX, 218-251, 272-308, 56 fgs.) First two sections of a discussion of the development of man since the fixation of the human species. Treats particularly of the "fossil races" of Europe.
- Baels (E.)** Ueber plötzliches Ergrauen der Haare nach Schreck. (Korr.-Bl. d. D. Ges. f. Anthrop., Brunschwg., 1908, XXXIX, 98-99.) Note on a case (woman 30 years old) of hair turning gray from fright (as result of steamer collision, fall into water, death of child), and another case of part-gray hair; "three-colored" hair is also noted.
- Ueber das Lockigwerden schlichter Haare nach Abdominaltyphus. (Ibid., 99-100.) Dr. B. cites five cases (of his personal knowledge) where, after attacks of abdominal typhus the straight hair of patients has grown curly after being lost.
- Baudouin (M.)** Un cas de mariages précoces se succédant, pendant cinq générations, dans la même famille. Influence possible d'une coutume analogue à celle du maraichinage. (Bull. Soc. d'Anthrop. de Paris, 1908, V^e s., IX, 716-723, 1 fg.) Treats of a family in Poitou counting 5 living generations (4 mothers of 4 generations, 84, 66, 46, 27 years old,—the last has 3 children, of 7, 5, and 1 year). The 5 mothers were all married early (the ages at marriage being respectively 14, 16, 17, 17, 19) and the husbands also were young—the majority of girls in this part of France entering marriage after 20. In the first 4 generations the first child has been a girl. Very precocious marriages may serve a social purpose. Monogamy after pregnancy (fidelity during marriage) is, according to Dr. B., "not merely a social convention, but an instinctive opinion of the normal woman, resting on a solid physiological basis."
- Bello y Rodriguez (S.)** Le fémur et le tibia chez l'homme et les anthropoïdes. (Bull. Soc. d'Anthrop. de Paris, 1909, V^e s., X, 37-40.) Résumé of the author's monograph with this title. See review in *Amer. Anthropol.*, 1909, N. S., XI, 503.
- Bellucci (J.)** Quelques observations sur les pointes de foudre. (L'Anthropologie, Paris, 1909, XX, 31-34.) Compares the report of Zeltner as to the Soudanese belief in "thunder-stones" (stone axes) with similar ideas of the ignorant Italian peasantry; also the resemblance of the *koruspex* and the African "rain-maker."
- Berkman (O.)** Zwei Fälle von Trigonocephalie. (A. f. Anthrop., Brunschwg., 1909, N. F., VII, 349-351, 6 fgs.) Treats of a Jewish skull in the collection of the Brunswick Natural History Museum, where the trigonocephaly is due to premature synostosis of the frontal bones, etc., induced by meningitis acuta simplex; and a case of trigonocephaly in an 8 year old boy in the Institution for the Blind in Brunswick,—here the anomaly is due to meningitis on a rachitic basis.
- Bloch (A.)** Sur le mongolisme infantile dans la race blanche et sur d'autres anomalies qui sont des caractères normaux dans diverses races. (Bull. Soc. d'Anthrop. de Paris, V^e s., IX, 1908, 561-570.) Treats of "infantile Mongolism" (Mongolian idiocy, Mongolian ear, hand, and, in particular, "Mongolian eye"). According to B., "Mongolian idiots" die young or disappear without descendants; such anomalies are not hereditary, and no new race-variety is formed. Other correspondences to other races also exist in idiots. In 1904 Harr made out a negroid and an American Indian type.
- Boas (F.)** William Jones. So. Wkmm. Hampton, Va., 1909, XXXVIII, 337-339, portr.) Brief account of life and works of the anthropologist and Algonian specialist, William Jones (d. March 28, 1909).
- William Jones. (Amer. Anthropol., Lancaster, Pa., 1909, N. S., XI, 137-139, portr.)
- Bolte (J.)** Neuere Märchenliteratur. Z. d. V. f. Volksk., Berlin, 1908, XVIII, 450-461.) Brief résumés and critiques of recent literature (books, periodical articles, etc.) on Märchen and allied topics: General (Wundt's essay on development of the mythus; Olrik's "epic laws"; Dähnhardt's *Natursagen*; Aarne's comparative

- studies of "the magic ring," the "three wish-things" and "the magic bird"; Dähnhardt's *Schwänke aus aller Welt*), Switzerland (Jegherlechner's *Märchen u. Sagen aus Wallis*), Denmark (Kristensen's great collection of tales, 2,827 in number), England, France, Italy, Hungary, Gipsy (Kraus's *Zigeunerhumor*); Arabia and Farther India (Hertel's tales from Hémacandra; O'Connor's *Folk-Tales from Tibet*); Africa, America, Philippine Is., etc. The second section treats of later literature. Among other works, Thimme's *Das Märchen* (Lpzg., 1909); Riklin's *Wunscherfüllung und Symbolik im Märchen* (Lpzg., 1908); Friedrich's *Grundlage, Entstehung und genaue Einzeldeutung der bekanntesten germanischen Märchen. Mythen und Sagen* (Lpzg., 1909); Dähnhardt's *Natursagen* (2. Bd., Lpzg., 1909); Hertel's *Tantrahygyika* (Lpzg., 1909), etc., are discussed.
- Brown (R.)** The constellation of the Great Bear. (*Amer. Antiq.*, Salem, Mass., 1909, xxxi, 27-28.) Notes on the "Great Bear" in Assyrian and Aryan mythology.
- Buch (M.)** Ueber den Kitzel. (A. f. Physiol., Leipzig, 1909, 1-26.) Discusses the biology, psychology, etc., of tickling (skin-tickle, tickle of mucous membrane, muscle or deep tickle, "psychic tickle"), in the individual and the race. B. favors the theory that tickling and the laughter-reaction have developed by natural selection out of play. Good bibliography.
- Die Beziehungen des Kitzels zur Erotik. (*Ibid.*, 27-33.) Treats of ticklishness in relation to sexuality. According to B., ticklishness is in woman much more intimately connected with the erotic element than is the case in man, and in woman sexual satisfaction dulls ticklishness more than in man.
- Buschan (G.)** Der Rechenkünstler Heinhaus. (*Arch. f. Anthrop.*, Brn-schw., 1908, N. F., VIII, 148-154, 2 figs., 2 portr.) Notes on F. A. Heinhaus (b. 1848), the mathematical calculator (height 1770 mm., normal and of normal ancestry; Möbius's "Stirnecke" is prominent; cephalic index 80.5; dimensions of skull far above average; estimated skull-capacity 1552 ccm., and brain-capacity 1424 gr.). Heinhaus is of both the visual and auditive types. His memory is phenomenal, but he seems to rely on his "gift for calculation."
- Camus (P.)** Étude sur la puissance de la hache préhistorique et sur l'évolution de son tranchant. (*Bull. Soc. d'Anthrop. de Paris*, 1908, 4^e s., ix, 667-671, 5 figs.) Points out the weakness of paleolithic axes, the really powerful implement of this sort appearing only with the neolithic age, which, indeed, might be termed "the age of the axe." The rounded edge of the neolithic axe made its use as a cutting instrument more easy (perfection came with copper, bronze and iron). Oblique cutting edges were employed only for certain special purposes.
- Capitan (L.)** Le professeur Hamy. (*R. de l'Éc. d'Anthrop. de Paris*, 1908, XVIII, 423-425.) Sketch of scientific activities of the late E. T. Hamy (d. 1908). Of value to Americanists are the three volumes of Hamy's *Décades américaines*, his *Galerie américaine du musée d'ethnographie du Trocadéro*, *Codex Borbonicus* and *Codex Telleriano-Remensis*. His ethnographic studies covered a wide field.
- Armand Lombard-Dumas, Ulysse Dumas. (*Ibid.*, 1909, XIX, 109-111.) Brief sketches of life and scientific activities of A. Lombard-Dumas (1836-1909), geologist and archeologist, author of a descriptive catalogue of megalithic monuments of the department of Gard, and an account of the neolithic "station" of Fontbonne; and of U. Dumas (1873-1909) archeologist and student of prehistoric industries.
- Cartailhac (E.)** Notice sur M. Félix Regnault, de Toulouse; ses travaux. (*Bull. Soc. Archéol. du Midi*, Toulouse, 1908, N. S., NO. 38, 312-318, portr.) Brief account of scientific activities of F. Regnault (1847-1908) with list of publications. R.'s investigations related chiefly to cave man in France.
- Carus (P.)** Hazing and faggot. (*Open Court*, Chicago, 1909, XXIII, 430-437, 4 figs.) Historical and etymological notes on hazing, beanism, pennalism, etc.

- Foundations laid in human sacrifice. (Ibid., 494-501, 3 figs.) Cites examples from Palestine (Geter, Megiddo, etc.), various countries of Europe, etc.
- Sacramental cannibalism. (Ibid., 564-567.) Cites Prof. Petrie as to cannibalism in ancient Egypt and argues that "the Christian sacrament contains reminiscences of the old cannibalistic custom, and yet it has done away with it forever."
- Chamberlain (A. F.) Note on some differences between "savages" and children. (Psychol. Bull., Baltimore, Md., 1909, vi, 212-214.) Treats briefly of the sign-language for the numbers 7, 8, 9 in the speech of the Moans of the Admiralty Is., near New Guinea (Meier), the signs for 5 and 10 among the Zuni Indians (Cushing), the counting up to 20 of the Californian Yuki (Dixon and Kroeber), in relation to the counting of children.
- Notes on certain philosophies of the day. (Pop. Sci. Mo., N. Y., 1909, LXXIV, 575-578.) Brief anthropological discussions of the rule of the dead, mutability, imitation, misanthropism (neophobia), struggle.
- Chervin (A.) Etudes des asymétries et des déformations crâniennes à l'aide des photographies métriques par une méthode dite "de retournement." (Bull. Soc. d'Anthrop. de Paris, 1908, v^e s., ix, 693-699, 3 figs.) Describes a method proposed by Dr C. for studying cranial asymmetries and deformations by means of metric photographs on a reticulated ground,—one contour being obtained from direct tracing of the photograph and compared with the same contour turned round. Dr M. Baudouin, in the discussion, pointed out the advantages of this method for anatomical, clinical, biological, archeological purposes.
- Combarieu (J.) La musique et la magie. (Idées Modernes, Paris, 1909, 1, 291-297.) C. argues that music, the oldest of arts (its origin, evolution, esthetics, etc., are resumé in the word *charm*), owes its first form and first use to magic. In the beginning song (the voice) was a "charm,"—Latin *carmen*, Greek *oidê*, Assyrian *sipis*, Egyptian *hosi*, etc.; song was "a higher form of action," that could even bend the gods to its will. The magical origin of music the author develops in detail in his book *La musique et la magie* (Paris, 1909).
- da Costa Ferreira (A.) Idiotie et taches pigmentaires chez un enfant de 17 mois. (Bull. Soc. d'Anthrop. de Paris, v^e s., ix, 1908, 646-649.) Brief account of large diffuse "blue spot" (Mongoloid) prominent particularly in the lumbar region in a boy of three months (up to that time sane and healthy) afflicted with idiocy,—now 17 months old. The spots were doubtless congenital.
- Couturat (L.) D'une application de la logique au problème de la langue internationale. (R. de Métaph., Paris, 1908, xvi, 761-769.) Criticises Esperanto from the point of view of logic in regard to derivation of other parts of speech from nouns, from verbs, etc.
- Crofton (H. T.) Dukeripen ta Choriben. (J. Gypsy Lore Soc., Liverpool, 1909, x, 2, 1, 227-228, 1 pl.) Treats of a drawing (illustrative of Gypsy life) made about 1875, "from a piece of tapestry believed to be Flemish of about 1650 to 1700."
- Crzetzlitz (A.) Methoden der Familienforschung. (Z. f. Ethnol., Berlin, 1909, xli, 181-198, 10 figs.) After discussing previous investigations of the family (C. judges Stroh-mayer's study in the *Arch. f. Rassenbiologie* for 1908 to be the best), the author treats briefly of genealogical trees (Stammbäume) and ancestral tables (Ahnentafeln). The *Stammbaum* (giving merely the male line) is of much less use than the *Ahnentafel* (giving the ancestors male and female of a given individual). But C. proposes to use the terms *Deszendenztafel* and *Aszendenztafel* (or *Ahnentafeln*) and, for a scheme representing everything, *Sippschaftstafeln*. By a system of squares (males), circles (females), inserted numbers (for generations), use of black color, cross-hatching, etc., in various degrees (to indicate physical characters, defects, etc., ability, intellectual, esthetic qualities, etc.), C. is able to give a comprehensive picture of the family history of any

individual. The *Sippachstafel* of the author's children has 60 persons, his own 120, the Kaiser's 75,—the general formula is $X = 8 + 6C$, where C is the average number of children (the table goes back to the 4 *Urgrosselternpaare*). For the expression *Ahnenverlust* is to be substituted *Ahnenidentität*.

Cunningham (D. J.) Anthropology in the eighteenth century. (J. R. Anthropol. Inst., Lond., 1908, xxxviii, 10-35, 5 pl.) Treats of the lives and activities of Peter Camper (1721-1789), Charles White (1728-1813), J. F. Blumenbach (1752-1840), J. C. Prichard (1786-1848), Sir William Lawrence (1783-1867), of all of whom portraits are given. Camper is known by his work on the negro and the ape and by his celebrated "facial angle." White, who possessed a museum, published in 1799 *An Account of the Regular Gradation in Man, and in different Animals and Vegetables from the Former to the Latter*. He was one of the founders of anthropometry and discovered the index of fore-arm to upper arm, comparing it in Europeans and Negroes (of these he measured 50). Blumenbach began with his famous thesis *On the Natural Variety of Mankind*. He it was who in his account of "Wild Peter" disposed for good of the belief in so-called "Natural man," the *Homo sapiens ferus* of Linnaeus. Prichard held that the ancestral human pair were black. He too began with a thesis, *De Humani Generis Varietate*. Lawrence, known for his *Lectures on Comparative Anatomy, Physiology, Zoology and the Natural History of Man*, anticipated "Weismannism" in some points.

Cunningham (J. T.) The evolution of man. (Science Progress, 1908, 111, 192-201.) Outlines modern theories as to adaptational characters (here man differs chiefly from the apes), race-types (not Mendelian mutations), sexual selection, etc. C. thinks that "man affords an example of a single species which has started a new group, which might become a genus or family." Adaptive characters "are due not to selection, but to the effects of functional and physical

stimulation, and diagnostic characters are not adaptive, and therefore not due to selection, but to blastogenic variation."

Densmore (F.) Scale formation in primitive music. (Amer. Anthropol., Lancaster, Pa., 1909, N. S., XI, 1-2.)

Des différents genres d'écritures. (R. de l'éc. d'Anthrop. de Paris, 1909, XIX, 241-244.) Notes on primitive "writing," particularly the beads and wampum, feathered pipes, etc., of North America and the *quipus* of Peru.

Dozy (G. J.) In Memoriam: Johannes Diedrich Eduard Schmeltz, 1839-1909. (Int. Arch. f. Ethnogr., Leiden, 1909, XIX, i-vi, portr.) Sketch of life, appreciation of scientific activities, chronological 1864-1904 list of publications.

Dubois (E.) On the correlation of the black and the orange-colored pigments, and its bearing upon the interpretation of red-hairedness. (Man, Lond., 1908, VIII, 87-89.) Gives chief facts regarding "pyrrhotism" (red-hairedness) from author's paper in *Nederl. Tijdschr. v. Geneesk.*, Feb. 8, 1908. In man, as in animals in a state of domestication, "pyrrhotism" is a common phenomenon. According to Dr. D., it "depends on an easily occurring (chemical) modification of the melanochrome into pyrrhochrome pigment."

Dubreuil-Chambardel (L.) A propos de la camptodactylie. (Bull. Soc. d'Anthrop. de Paris, 1908, V^e S., IX, 167-170.) Dr. D. considers camptodactyly (occurring in 16% of males, 12.5% females; more common in child; essentially hereditary) due to anatomic variations and not pathogenic or a mark of degeneracy. It occurs most frequently in the little finger. Bloch compares camptodactyly to *genu valgum*.

Elderton (E. M.) On the association of drawing with other capacities in school-children. (Biometrika, Cambridge, Engld., 1909, VII, 222-226.) Based on the data in E. Ivanoff's paper on "Recherches expérimentales sur le dessin des écoliers de la Suisse romande," in the *Archives de Psychologie* for 1908. Ability in drawing seems more closely associated with other characters in girls than

in boys (except perhaps pedagogic character). Slight sexual differences appear.

Elwang (W. W.) The social function of religious belief. (Univ. of Missouri Studies, 1908, Soc. Sci. Ser., II, 1-103.) According to E. "religious functions among a culture people like ourselves just as it does among the nature peoples; it shifts the individual's attention from self to society and in so doing makes him a better citizen." The author cites material from the Australians and other primitive peoples.

Evans (H. R.) The necromancy of numbers and letters. (Open Court, Chicago, 1909, xxiii, 85-95.) Treats of 3, 9, the date-lore of Louis Philippe and Napoleon III, the "number of the beast" (Apocalypse), "magic opera glass," "magic squares," abracadabra, etc.

Ferguson (J.) Bibliographical notes on histories of inventions and books of secrets. Fifth supplement. (Trans. Glasgow Archeol. Soc., 1908, N. S., v, 125-185.) Treats of books of natural history, receipts in medicine and surgery, pharmacy, busbandry and housewifery, pyrotechny, and practical arts of various kinds, published between 1550 and 1650.

Frassetto (F.) Sull' origine e sull' evoluzione delle forme del cranio umano, forme eurasiche. (At. d. Soc. Rom. di Antrop., Roma, 1908, xiv, 162-196, 18 fgs.) Based on the study of 156 skulls of fetuses and new-born children in the Female Clinic of the University of Munich. For the fetal period from the 4th to the 10th month 8, and for that from the 1st to the 2d month of extra-uterine life 3 crania are specially described, and the growth of the various bones is considered. According to Dr. F. the succession of intra-uterine forms is *Spheroides* (common and evident, 4th month), *Ovoides latus* (6th month), *Sphenoides* (by 7th month), *Pentagonoides latus obtusus* (7th and 8th months), *Pentagonoides latus acutus* and *P. latus complanatus* (9th and 10th months)—also *Rhomboides latus*. After birth the succession is *Pentagonoides latus*, *Sphenoides Spheroides*. Thus the typical adult Eurasian form of the skull is the spheroid.

Fraser (J. G.) Howitt and Fison. (Folk-Lore, Lond., 1909, xx, 144-180.) Sketches life and scientific activities of Rev. L. Fison (d. Dec., 1907) and Dr. A. W. Howitt (d. March, 1908), pioneers in modern ethnologic investigation of the Australian aborigines.

Froriep (A.) Ueber den Schädel und andere Knochenreste des Botanikers Hugo v. Mohl. (Arch. f. Anthrop., Brnschw., 1908, N. F., VIII, 124-145, 5 fgs., 4 pl., portr.) Treats of the skull (in particular) and brain-model from cast of skull, long bones, etc., of H. von Mohl (1805-1872), a distinguished botanist; sketch of life and character is given. The leg bones show as compared with those of the arms a disproportionate length, strength, development of tuberosities, etc. The estimated brain-weight from skull capacity is, by the Weicker method 1402.5 gr., by the Rieger method 1350 gr., and by that of Manouvrier 1305 gr.; the skull capacity in proportion to body-mass is relatively small—his brain-weight could not have exceeded the European average for males. Skull and brain are very asymmetrical; the general type of brain is markedly frontipetal (cephalic index 82.48). The relation of the peculiarities of brain-development (relatively small development of frontal brain and relatively large extent of coronal-temporal-occipital region) to v. Mohl's psychic character, etc., is discussed, his lack of the gift of cooperative creativeness being noted.

Für die Zigeuner. (Globus, Brnschw., 1908, xciv, 49-50.) Notes the efforts made in European countries formerly and at the present time to repress or exterminate the Gypsies, after Winsted, in his "Gypsy Civilization," in the *Journal of the Gypsy Lore Society* for 1908, the attempts to "civilize" them, etc.; the case of the Gypsy boy educated by Liszt, who returned to his people, is of interest.

G. (J.) F. G. Hilton Price. (Ann. Arch. & Anthrop., Liverpool, 1909, II, 94-95.) Sketch of life and works of the late vice-president of the Liverpool University Institute of Archeology (1842-1909), archeologist (Roman remains, Egypt).

Gaster (M.) Presidential address. (Folk-Lore, Lond., 1908, xix, 12-30.) Treats of the fairy-tale, its nature, elements (democracy of animatism, metempsychosis and metamorphosis natural, absence of divinity in the religious realm, nether world a sort of negative Elysium and not hell or Gehenna, belief in an immortality *sui generis*, men and women few in type but of manifold combinations, etc., transformation of the lazy, dull, small, ugly, ignorant, silly, etc., things and creatures not to be judged by outward appearances, absence of normal animals as antagonists of hero, superior knowledge as weapon that decides contest, size of no moment). The fairy-tale was "the first attempt of man to solve the riddle of life and world." The poetic imagination of mankind "has created this imaginary world of unity, beauty and justice, and has transported all the ideal hopes and aspirations of man."

— Presidential address. (Ibid., 1909, xi, 12-31.) Treats of the origin and diffusion of fairy-tales, legends, folk-lore, etc., the field and the value of the study of folk-lore. The most advanced types have retained rudimentary elements of their primitive condition. The folk-lore of one nation, in spite of all divergence in detail, is essentially that of almost every other nation. This disposes of the narrower mythological theory. The discarded literature of the classes filters slowly down to the masses. There is a mutual play of popular and classical literature, the written and the spoken.

van Gennep (A.) Linguistique et sociologie. II. Essai d'une théorie des langues spéciales. (R. d. Et. Ethnogr. et Sociol., Paris, 1908, ii, 327-337.) Treats of special languages sacred and profane, with particular reference to R. Lasch's *Über Sondersprachen und ihre Entstehung* (1907), the theories of J. G. Frazer, etc. Special languages are not mere "sports" or "abnormal phenomena," but they sustain in the midst of the general society the rôle played by each general language in respect to other general languages. They are one of the forms of variation, de-

sired and necessary for the life of society.

Giannelli (A.) Un caso di milza rudimentaria. (A. d. Soc. Rom. di Antrop., Roma, 1908, xiv, 209-212, 1 fig.) Treats of a case of rudimentary spleen in a patient (d. at 28 years) suffering from dementia praecox in the Lunatic Asylum in Rome. The arrested development here noted corresponds to the condition of the spleen at a period anterior to the eighth month.

— Anormale suddivisione dei polmoni. (Ibid., 213-217, 1 fig.) Notes on two cases of abnormal subdivision of the lungs,—left divided into 3, and 5 lobes,—the latter a very rare anomaly.

Graebner (F.) Der Neubau des Berliner Museums für Völkerkunde und andere praktische Zeitfragen der Ethnologie. (Globus, Brnschw., 1908, xciv, 213-216.) Discusses the new building for the Berlin Ethnological Museum in relation to practical ethnological questions. The Berlin Museum, as the center of the ethnological world in Germany, ought to develop its publications accordingly, and the colonial authorities ought to help much in the labor necessary to collect aboriginal material and anthropological data before the opportunity to do so has vanished.

Gray (J.) A new instrument for determining the color of the hair, eyes and skin. (Man, Lond., 1908, viii, 54-58, 6 figs.) Discusses the measurement of pigmentation by means of an instrument on the principle of the Lovibond tintometer, called "the pigmentation meter."

— Apparat zur Bestimmung der Haut- und Haarfarben. (Korr.-Bl. d. D. Ges. f. Anthrop., Brnschw., 1908, xxxix, 115.) Note on colored-glass apparatus for testing color of skin and hair (observation as with photometer). Same as instrument described in previous article.

Haddon (A. C.) The regulations for obtaining a diploma of anthropology in the University of Cambridge. (Man, Lond., 1908, viii, 42.) Gives the terms stated in the "grace" passed by the senate in January,

- 1908, and the powers of the "Board of Anthropological Studies."
- and Bushnell (D. L., Jr.) Otis Tufton Mason. (Ibid., 1909, ix, 17-18.) Brief notes on life and works of Prof. O. T. Mason (1838-1908).
- Hahn (E.) Das Gestirn des Wagens. (Z. f. Ethnol., Berlin, 1909, xli, 272.) Appeals for the designation of the constellation sometimes called in German (as elsewhere in W. Europe), "der Grosse Bär," as "der Wagen," corresponding to the "Wain" of older English, etc. The Latin term *Ursa major* signifies really "Great She-bear."
- Halbass (W.) Industrie, Verkehr und Natur. (Globus, Brunschwg., 1908, xciv, 270-273.) Treats of the dangers, etc., of the excessive utilization of natural flowing and subterranean water for purposes of industry and commerce. Some joy in unchanged nature is needed for man's best development.
- Hallock (C.) Loyalty of tradition. (Amer. Antiq., Salem, Mass., 1909, xxxi, 159-163.) Argues that "tradition, as transmitted orally from father to son through all the generations from the beginning until now, is the most reliable resource we have to base current or ancient history upon," and that "transmission goes on infallibly."
- Hambruch (P.) Ein neuer "Ohrhöhenmesser" nach Professor Krämer. (Korr.-Bl. d. D. Ges. f. Anthrop., Brunschwg., 1909, xi, 39-40, 2 figs.) Describes a new apparatus for measuring the ear-height of the living subject by a single individual, invented by Prof. A. Krämer of Kiel.
- Hamy (E. T.) Charles Arthaud de Pont-à-Mousson, 1748-1791. (Bull. Soc. d'Anthrop. de Paris, 1908, v^e 2, ix, 293-314.) Brief account of life and activities and publications of Dr. C. Arthaud, resident in Santo Domingo 1772-1791. At pages 303-310 and 310-314, respectively, contains the reprint of an article (published in 1786) by Arthaud on the "Constitution of the aborigines, their arts, their industry and their means of subsistence," and of an unpublished Ms. (1790) on "The phallus among the aborigines." In the first the author treats of agricultural implements and processes, stone axes, fetishes and *sermis*, houses, songs, character and temperament of Indians, and notes the occurrence of simple and ornamental pottery, a stone mortar carved in relief, etc. The second was occasioned by the discovery in a great cavern on the island of several phalli of natural size in connection with human remains.
- von Hansemann (D.) Ueber die Asymmetrie der Gelenkflächen des Hinterhauptes. (Z. f. Ethnol., Berlin, 1908, xi, 994-997.) From the examination of some 400 skulls (of these about 200 from Africa, Australia, Polynesia, etc.) H. comes to the conclusion that the well-known asymmetry of the articular surfaces (condyles) of the occiput is a character acquired in early childhood, due to some factor of civilized life, probably the attitude assumed in reading and writing. These surfaces continue symmetric in the child up to the seventh or the eighth year; of the 200 skulls of non-European races 156 showed this symmetry, of the 200 European skulls only 17.
- Die Bedeutung der *Ossicula mentalia* für die Kinnbildung. (Ibid., 1909, xli, 714-721.) Discusses the significances of the *ossicula mentalia* in the formation of the chin,—views of Toldt, Walkhoff, etc. v. H. holds that the *ossicula mentalia* existed in the Neanderthal man and probably also in the Heidelberg man, and, while they may serve to mark man off from the lower animals, they can be held to distinguish the Neanderthal race from modern man.
- Hellmich (M.) Aufmessung und Kartendarstellung vorgeschichtlicher Befestigungswerke. (Korr.-Bl. d. D. Ges. f. Anthrop., Brunschwg., 1909, xi, 6-11, 1 fig.) Discusses the problems concerned in the measurement and cartographical representation of prehistoric fortification-works, etc.
- Hellwig (A.) Das Eid im Volksglauben. (Globus, Brunschwg., 1908, xciv, 125-126.) Notes on folk-lore concerning the oath (pregnant women may not make oath lest child be harmed in some way,—widespread superstition; dangers of oathmaking, etc.).

- *Prozessalismann*. (Ibid., 1909, xcv, 21-24.) Treats of talismans for protection in trials, lawsuits, etc., devices for luck in court, etc., in various parts of Germany in particular: Objects carried on the person (powdered snake-skin, heart of a raven, baptismal water, caul, roots and vegetables, rabbit's foot in America, etc.), performance of certain action on the way to court or during the trial (putting stocking on inside out), use of certain "magic" formulas (specimens of verse to be recited are given), etc. See also H.'s *Verbrechen und Aberglaube* (Leipzig, 1908).
- *Zufall und Aberglaube*. (Ibid., 293-297.) Discusses the rôle of chance in superstition (misses in the case of amulets are forgotten and the "hits" only remembered); harmless unintentional prophecies turn out true and the authors become witches or medicine-men; dead bodies happen to be found only after folk-procedure has been resorted to; thieves and other offenders are found in like manner; charlatans often begin their careers after a lucky chance. H. cites many instances of the effect of chance in strengthening old superstitions or even setting up new ones in quite modern days.
- *Mystische Meinelidzeremonien*. (A. f. Religsw., Lpzg., 1909, xii, 46-66.) Treats of mystic ceremonies and devices in use to avoid the result of perjury, punishment, etc., in various parts of Europe, Germany in particular: Swearing into the ground or into the air (so as to prevent being struck by lightning; "swearing off" by holding the palm of the raised hand toward the judge; holding something in the hand as a sort of "scape-goat" (in use among Germans, Poles, Rumanians, Ruthenians, Huzula, Servians, etc.); leaving out words, mumbling, speaking indistinctly; croaking the finger where touching the Holy Scriptures (Jews), avoiding touching the Bible, the Koran, etc.; "Jesuitical" doctrine of perjury; devices to cheat the devil, etc. A knowledge of some of the data in this field is of practical use to the lawyer and the judicial authorities.
- Reimolt (H. F.) A friend of the Gypsies. (J. Gypsy Lore Soc., Liverpool, 1908, N. S., I, 193-197, part.) Sketch of life and works of Dr. H. von Wialocki (d. Feb., 1907), an authority on the ethnology and folklore of the Gypsies. Translated from *Das literarische Echo* for Aug., 1907.
- Hertel (J.) Zu den Erzählungen von der Muttermilch und der schwimmenden Lade. (Z. d. V. f. Volksk., Berlin, 1909, xix, 83-92, 128.) Discusses, with additional data (the tale of Kubéradatta, etc., published by H. in his *Ausgew. Erzählg. aus Hémacandras Parikshitapurva*, Leipzig, 1908), especially from Hindu sources, the tale of the mother's milk and the floating chest, treated by E. Cosquin in the *Revue des questions historiques* for 1908. In the various versions the chest serves 8 different purposes. This cycle includes the story of the finding of Moses.
- Zur Fabel von den Hasen und den Fröschen. (Ibid., 426-429.) Discusses the fable of the hare and the frogs, and refers the Estonian, Russian and Finnish versions cited by Dähnhardt to an Asiatic source (cf. *Päli-Jätaka*, 322). An African tale of the hare as moon-messenger may hail from India also.
- Hervé (G.) Les trois glorieuses de 1859 et leur cinquantenaire. (R. de l'Éc. d'Anthrop. de Paris, 1909, xix, 1-4, 3 figs.) The year 1859 is celebrated for having been the time of the publication of the *Origin of Species* by Charles Darwin, the foundation of the *Société d'Anthropologie de Paris* by Paul Broca, and the acceptance by Sir Charles Lyell, President of the British Association for the Advancement of Science, of the evidence demonstrating the existence of post-pliocene man, theoretically argued by Boucher de Perthes as early as 1838 and for twenty years subsequently on the basis of flints from the diluvium of the Somme, etc. The relations of these three things are discussed by H. It is to be noted that the Paris Anthropological Society decided in 1883 to hold an annual *Conférence transformiste* (not *darwinienne*).
- Des pierres-figures au point de vue ethnographique. (Ibid., 77-91,

- 6 figs.) Treats of *pierres-figures* (i. e., zoomorphic stones (imitations of animals, etc.), retouched "sports" of nature, among the Lapps, Siberian tribes, Zuni and other Indians, Eskimo of Alaska, Webias of New Caledonia, Australian churingas, etc. According to H. these objects are intimately connected with "magic" and "religion." The forms seen in them by prehistoric and savage man are largely what we see in them now. Some peoples have a keen faculty for "seeing" such things. See Archambault (M.).
- Hoffman-Krayer** (E.) *Volkskundliche Umfragen X. Gebräuche zu bestimmten Jahreszeiten und Tagen. I.* (Schw. Arch. f. Volksk., Basel, 1909, xiii, 212.) *Questionnaire* of 26 items relating to special days and festivals of winter.
- Hospital** (P.) *L'intervention des habilements sexuels.* (Ann. Méd.-psychol., Paris, 1909, 9^e s., ix, 29-36.) Treats of men dressing as women and vice versa, from Tiresias down to Mme. Dicalof and the university gown of to-day.
- How the world is shod.** (Nat. Geogr. Mag., Wash., 1908, xix, 649-660, 11 pl.) These illustrations treat of Russian high leather boots, Breton out-door shoe factory, foot-gear of Tower of London guards, shoes of Queen's guard at Athens, Chinese shoe-stall, fine shoes of Canton ladies, wooden shoes of low classes in India, Japanese clogs and sandals, cliff-dwellers' sandals.
- Hultkrantz** (J. W.) *Über Dysostosis cleido-cranialis. Kongenitale, Kombinierte Schädel- und Schlüsselbeinanomalien.* (Z. f. Morphol. u. Anthropol., Stuttgart, 1908, xi, 385-524, 9 figs., 3 pl.) Detailed discussion of dysostosis and its anatomical peculiarities, origin, etc. Besides considering 53 cases listed in the literature of the subject, Dr H. gives the results of observations on 9 living dysostotic individuals, investigations of 5 dysostotic skulls in the Pathological Museum in Vienna and one in the Anatomical Museum of Helsingfors. Dysostosis cleido-cranialis is a congenital malformation of the bony system chiefly concerning the skull and the clavicle, which appears sometimes in quite normal families, has no sex-preference, and is often inherited.
- Isaac Heron.** (J. Gypsy Lore Soc., Liverpool, 1908, N. S., I, 251-258, portr.) Notes on "one of the finest living specimens of a Gypsy of the old school."
- Kainzbauer** (L.) *Bedingungen zur Beurteilungen prähistorischer Zeichnungen.* (Mitt. d. Anthrop. Ges. in Wien, 1908, xxxviii, 92-95.) Discusses the character of prehistoric drawings. Distinguishes decorative prehistoric drawings from "free representation." Some are not drawings but merely expressions of thought with most primitive means, as is nowadays even the case with normal man. Childhood and primitive man present identical phenomena. Further study of prehistoric drawings is needed to determine their real nature.
- Klaatsch** (H.) *Kraniomorphologie und Kraniotrigonometrie.* (Arch. f. Anthrop., Brnschw., 1909, N. F., viii, 101-123, 30 figs.) Treats of cranial morphology and trigonometry (the lower jaw-bone in particular), with special reference to Europeans, Australians and the anthropoids. The exactness of the old craniometry (e. g. 6000 measurements of the lower jaw) is but a pseudo-exactness,—and even now race-morphology of the mandibula is almost a new field). Most Europeans have a "positive" chin, ancient diluvial man and the lower races a "negative" chin (and the anthropoids also). In the human race the formation of the chin has taken place polyphyletically. The "cranial square" with its 4 right-angled triangles is important for craniofrigonometry.
- Koch** (M.) *Demonstration eines Schädels mit Leontiasis ossea.* (Z. f. Ethnol., Berlin, 1909, xli, 703-714, 3 figs.) Treats of the monstrous skull of a 65 year old woman (d. 1909, in the hospital on the Urban), and compares it with the skulls of Sacy (1799), San Cassiano (1863), Liverpool (1866), Haarlem (1883), all of which, however, hardly belong together. Some cases of *Leontiasis ossea* may not be diseases *sui generis*, but consequences of rachitis. In the

discussion other examples, etc., were cited.

- Kohlbrugge (J. H. F.)** Rote Haare und deren Bedeutung. (Globus, Brunschwg., 1908, xciii, 309-312, 333-335.) Discusses red hair, its origin, significance, etc., in the anthropoids (and other animals) and man. K. compared redhairedness or erythriam in the anthropoids with albinism in man finding many points of coincidence, but reached the conclusion from further observations that white and red color are to be regarded as arrests of development, that can be restored if not excessively advanced, —they may be compared with *Alopecia* or hairlessness. Albinism and erythriam are sports (not varieties) and have something pathological and degenerative about them (this is often very marked in the former). Erythriam is a sort of albinism; red is no hair-color, but due to lack of color, or of color-substance.

— Untersuchungen über Grosshirnfurchen der Menschenrassen. (Z. f. Morphol. u. Anthropol. Lpzg., 1908, xi, 596-609.) Résumés the author's own investigations on the sulci of the cerebrum in 72 hemispheres of Javanese, 46 of other Malay peoples (Batak, Bugi, Timorese, etc.), 12 Australians and New Zealanders, 20 Dutchmen. No constant race differences in the cerebral sulci exist, and "it is as little possible to distinguish the brain of an Australian from that of a European, as to distinguish that of a man of genius from that of a simpleton." This does not however signify psychological indifference as well as convolutional.

- Kohnstamm (O.)** Ausdruckstätigkeit als Forschungsprinzip? (Korr.-Bl. d. D. Ges. f. Anthropol. Brunschwg., 1909, xi, 17-18.) Raises the question in how far the works and activities, etc., of primitive man (cf. the child) are teleological (or purposive) and in how far expressive.

- Kroeber (A. L.)** Classificatory systems of relationship. (J. R. Anthropol. Inst., Lond., 1909, xxxix, 77-84.) Argues (chiefly from American Indian data) that: The generally accepted distinction between descriptive and classificatory systems of re-

lationships cannot be supported. Systems of terms of relationship can be properly compared through an examination of the categories of relation (8 are enumerated and briefly discussed) which they involve and of the degree to which they give expression to these categories. The fundamental difference between systems of terms of relationship of Europeans and of American Indians is that the former express a smaller number of categories of relationship than the latter, and express them more completely. Terms of relationship reflect psychology, not sociology. They are determined primarily by language and can be utilized for sociological inferences only with extreme caution.

- Lang (A.)** The origin of terms of human relationship. (Proc. Brit. Acad., Lond., 1908, iii, Repr., pp. 1-20.) L. discusses relationship-names in Greek, French, English, and particularly aboriginal Australian, and their wide extension, arguing that "as tribal laws developed, regulating all things by grade of age, the old names for the dearest relationships were simply extended (sometimes with qualifications, such as 'elder,' 'younger,' 'little') to all persons of the same age-grade, in the same phratry, with the same duties, privileges and restrictions. This kind of extension is familiar in modern custom." It indicates no primal promiscuity.

— Alfred William Howitt, C.M.G., Sc.D.; born 1830, died March 7th, 1908. (Man, Lond., 1908, viii, 85-86.) Brief account of life, scientific activities and publications. His great work is the *Native Tribes of South-East Australia* (1904).

- Lasch (R.)** Das Fortleben geschichtlicher Ereignisse in der Tradition der Naturvölker. (Globus, Brunschwg., 1908, xciii, 287-289.) Cites from various legends of primitive peoples evidence of the handing down of a knowledge of historical events in legends, traditions, etc. Tlingit Indians of Alaska (visit of Cook in 1778 and Baranoff in 1793); Eskimo (conflicts with Norsemen 1379-1456); Makah Indians of Cape Flattery (coming of Quimper at Neah

bay in 1792); Indonesia (earthquakes, volcanic eruptions, etc.); Australians (epidemics, coming of Europeans, etc.); St. Cruz Is. (shipwreck of European expedition in 1788); Maoris (coming of Europeans); Tongans (coming of Tasman in 1643), etc. L. considers it proved that highly-gifted people like the Polynesians, e. g., in no wise lack the historical sense, and that their traditions have often no little historical value.

Le Damany (P.) Le mécanisme de la torsion et de la détorsion du fémur. Le mécanisme de la luxation congénitale de la hanche. (Bull. Soc. d'Anthrop. de Paris, 1909, v^e s., ix, 732-736.) Congenital dislocation of the hip is something "anthropological." Marking the rise from the anthropoid (rare in negroes, it occurs in male whites in the proportion of 1:1000, females 1:200). It is due to a malformation of the pelvis which increases the normal anterior obliquity of the cotyloid cavity and to the increase of the normal torsion of the femur. The femur is subject to torsion in intra-uterine life and to detorsion after birth. Dr Le D. has constructed a wooden apparatus for exhibiting torsion and detorsion, the mechanism of luxation, etc.

Lehmann (J.) Einiges über Ornamentik. (Korr.-Bl. d. D. Ges. f. Anthrop., Brnschw., 1908, xxxix, 134-136.) Discusses the development of ornament, relations to technique, material, etc. Ornament is *sui generis* with peoples. Many ornament-motives of different peoples are essentially identical in form, but have arisen through a like model to begin with. The transference of such patterns from one field of ornamentation to another has been noted by Schmidt in the textile art of Brazilian Indians. The wire-art of Indonesia is also interesting here, and likewise the Hamasa imitation of hair-braids, etc. (also ornaments on Somali shields).

Lejeune (C.) De l'anthropoïde à l'homme. (Bull. Soc. d'Anthrop. de Paris, 1908, v^e s., ix, 450-454.) Discusses the views of S. Reinach put forth in an article "From the Anthropoid to Man," published in the

Université de Paris for November, 1906. R. believes that "man came into being the day when the human tabu of sex was added to the animal tabu of blood." But new needs, rather than tabu, have been the making of man, according to L.

Leuba (J. H.) The psychological origin of religion. (Monist, Chicago, 1909, xix, 27-35.) Discusses origin of ideas of ghosts, nature-beings and creators, the origin emotion of primitive religious life. According to Dr L. "all living savages known to us believe in ghosts, in spirits, and perhaps also in particular beings risen to the dignity of gods" (p. 28)—a rather broad statement. The order of origin of these beings is not settled. Fear, the first of the well-organized emotional reactions, was largely the origin of religion, its history being the gradual substitution of love for fear. See also the author's book (London, 1909) with the same title.

Lewis (T.) and Embleton (D.) Split-hand and split-foot deformities, their types, origin and transmission. (Biometrika, Cambridge, Engld., 1908, vi, 26-38, 7 pl., 2 figs.) Based on the detailed study of 17 members of the "G" family of 44 deformed persons, —in all more than 180 individual cases have been collected. Types of split hand and foot, their terminology and the nature of cross-bones, origin and transmission of the deformities (maternal impressions, extra-uterine lesion, arrests of development, atavism, intra-uterine conditions, "sports," Mendelism, etc.) are discussed. This deformity has its origin in a "sport," tending to be transmitted along definite lines.

von Luschan (F.) Akromegalie und Caput progenacum. (Z. f. Ethnol., Berlin, 1909, xli, 698-703.) Notes resemblance of lower jaw, e. g., in acromegaly and progenia. The latter in high degree can occur without serious nervous symptoms and may be inherited for many generations (cf. Alfonso of Spain and his ancestor Charles V.). It is difficult to distinguish a high degree of progenia from a low degree of acromegaly.

MacCurdy (G. G.) Eolithic and paleolithic man. (Amer. Anthropol., Lan-

- caster, Pa., 1909, N. S., XI, 92-100, 4 figs.)
- Anthropology at the Baltimore meeting with Proceedings of the American Anthropological Association for 1908. (Ibid., 101-119.)
- Théodore-Jules-Ernest Hamy. (Ibid., 145-147, portr.)
- Mahé (G.)** Terminologie rationnelle dans la description anatomique des dents humaines. (Bull. Soc. d'Anthrop. de Paris, 1908, V^e s., IX, 170-178.) Sets forth a "rational terminology for anatomic description of the human teeth," based on these four terms of precise and general application: anterior, posterior, external, internal.
- Mahoudeau (P. G.)** La question de l'origine de l'homme et la faillite de la science d'après Brunetière. (R. de l'Éc. d'Anthrop. de Paris, 1908, XVIII, 361-379.) Critique of Brunetière's article in the *Revue des Deux Mondes* (1895) in relation to the "bankruptcy of science" and the question of the origin of man. Anthropology, according to M., demands facts, not legends, and proves the natural origin of man, which is not unknown to the Bible, as several texts show.
- L'origine de l'homme au point de vue expérimental. (Ibid., 1909, XIX, 145-155.) Discusses the proposals of Prof. Bernolet-Moens in his pamphlet *Vérité: Recherches expérimentales sur l'origine de l'homme* (Paris, 1908), to investigate the origin of man by means of experiments in artificial fecundation of female anthropoids with human sperm, the crossing of anthropoids one with another, the infection of anthropoids with human diseases (particularly syphilis), etc. M. is of opinion that the "crossing of anthropoids with man can never resurrect a being that has disappeared; nor will any new beings he may be able to produce reveal the secret of man's origin."
- Manacorda (G.)** Zu dem volkstümlichen Motive von den weiblichen Schönheiten. (Z. d. V. f. Volksk., Berlin, 1908, XVIII, 436-441.) Treats of folk-motive of "the beauties of woman": The 18 beauties (Italian sonnet from a Perugian Ms. of the 15th century); the 21 beauties (Celtic

and Bebel,—ante 1508); the 30 beauties (Ms. of 16th century); the 33 beauties (Italian poem of 16th century); the 37 beauties (Italian poem of 16th century); 60 and 72 beauties also are mentioned. Comparisons of woman with the horse likewise occur.

Manouvrier (L.) Mémoire visuelle, visualisation colorée, calcul mental. Notes et étude sur Mlle. U. Diamandi. (Bull. Soc. d'Anthrop. de Paris, 1908, V^e s., IX, 584-642, 1 fig.) Details of study and experiments with Miss U. Diamandi, the mental prodigy.

— L'inauguration de la statue de Boucher de Perthes à Abbeville. (Ibid., 539-542.) Report of proceedings and brief address of M. Manouvrier at the dedication of the statue of Boucher de Perthes at Abbeville, June 7, 1908.

— Conclusions générales sur l'anthropologie des sexes et applications sociales. (R. de l'Éc. d'Anthrop. de Paris, 1909, XIX, 41-61.) Pt. III of general discussion of the anthropology of sex, resuming the views and personal opinions of the author on primary and secondary sexual differences, etc. The social separation of the sexes by means of their union in the family is a natural law graven upon the entire physiology and constitution of man and woman. There is a reciprocal attraction correlative with differentiation. Biologically, physiologically, sociologically man is man, and woman is woman.

Marcuse (M.) Geschlechtstrieb und "Liebe" des Urmenschen. (Sexual-Probl., Frankfurt, 1909, V, 721-740.) Discusses the question of the strength of the sexual impulse in primitive man, etc., with numerous bibliographical references. Dr M. holds to the theory of a strong development of the sex-impulse in primitive times, rejecting H. Ellis's view of its increase as a result of civilization.

Marett (R. R.) The tabu-mana formula as a minimum definition of religion. (A. f. Religsws., Lpgr., xxi, 186-194.) M. argues that *tabu* and *mana* are "severally the negative and the positive modes of the supernatural," and discusses this formula in its relation to Tylor's theory of

- animism,—animism is too wide and not so homogeneous as *tabu-mana*. M. applies *tabu* and *mana* as categories to the phenomena of the stage of "savage," "primitive," or better, "rudimentary" religion. He holds that "the key to religious evolution is doubtless to be found in social evolution." The illustrative matter is taken from Codrington's *The Melanesians* (Oxford, 1891) and Tregear's *The Maori-Polynesian Comparative Dictionary* (Wellington, N. Z., 1891).
- Mendoza (M. P.), Ramirez (M.), and Enriquez (P. V.).** An improved modelling especially adapted for the central nervous system. Preparation of brain models. (Philip. J. Sci., Manila, 1908, III, 293-297, 3 pl.) Describes method of making brain-models of paper pulp.
- Mielke (R.).** Ein merkwürdiger Totenbrauch. (Z. f. Ethnol., Berlin, 1908, XI, 623-634.) Discusses the custom of burying the dead in a sitting posture, its geographical distribution, origin, etc. Sitting is symbolic of power, personal power especially; it has been developed out of the squatting (hocken) position, the most natural form of temporary rest; lying down suited only the sleeping and the sick with many peoples; in the sitting posture, too, the dead can easily look over all things, see far, etc. In the discussion Hr. Kossinna cited from Mecklenburg and Lubeck (megalithic graves) 25 cases of prehistoric sitting-burial.
- Mollison (T.).** Rechts und links in der Primatenreihe. (Korr.-Bl. d. Ges. f. Anthrop., Braunschwg., 1908, XXXIX, 112-115, 15 figs.) Gives results of measurements of length of right and left humerus, radius, ulna, femur, tibia and fibula of *Prosimia*, *Platyrrhine* apes, *Cercopithecus*, chimpanzee, gorilla, gibbon, orang and man, and their graphic expression. As to the arm, man (the most marked), orang and gibbon are decidedly right-handed, the chimpanzee and gorilla left-handed, but not so markedly so as these are right-handed. In the *Cercopithecidae* and the monkeys of the New World equality of sides predominates, with the left side longer if either. The *Prosimia* represent all three possibilities, with a tendency to equality of the sides. With regard to the legs, asymmetry is likewise commoner in the higher than in the lower forms. In the orang and chimpanzee the right femur is longer, in man the left; in the New World apes alone the left tibia is longer; the right fibula is longer in man and the *Cercopithecidae*, elsewhere equal, or the right longer. In the orang and chimpanzee all three bones of the right leg are longer; in man the left femur and fibula and right tibia. If these facts are confirmed by more numerous investigations, it would appear that the origin of righthandedness must be due to something common to man and the orang and gibbon (not e. g. the ramification type of the aorta).
- Mountains (The) and Migrations of Man.** (Am. Antiq., Salem, Mass., 1909, XXXI, 127-144, 9 figs.) General discussion of the "tracing of migrations of races by mountain ranges," and the beginning of the history of great nations "between ranges of mountains and in valleys through which great streams were continually flowing."
- Mühsam (H.).** Die Bedeutung der neueren Methoden der Blutdifferenzierung für die Anthropologie. (Z. f. Ethnol., Berlin, 1908, XI, 573-582, 4 figs.) Discusses the recent methods of blood-differentiation (precipitation, absorption, complementary union, etc.) and their anthropological significance,—experiments of Nattfäll, Uhlenhuth, Friedenthal, Weichardt, Friedberger, Bruck, etc. Bruck's researches indicate the following biological series: 1, Man, 2, Orangutan, 3, Gibbon, 4, *Macacus rhesus* and *aemestrinus*, 5, *Macacus cynomolgus*. The human species has a "dominant receptor," and each race, besides, a "partial receptor." If these experiments hold good, a useful biological race-distinguisher will have been found. See Neisser (M.).
- Myers (C. S.).** Some observations on the development of the color sense. (J. Psychol., Cambr., Eng., 1908, II, 353-362.) Gives results of experiments with painted "bricks" on the author's daughter during the period from the 24th to the 58th month of life. M. concludes that "it is ex-

tremely dangerous to formulate any opinion on the actual color experiences of an infant as the result of observing what colored objects it prefers or rejects, when these objects are presented with other colored or colorless objects." Also that we do not have sufficient evidence to show that the color sense materially differs in different peoples, or that the various color sensations of an infant develop at different periods in his life. The superior attractiveness of red is probably pre-human.

Neisser (M.) und Sachs (H.) Demonstration serodiagnostischen Methoden zur Feststellung von Artverschiedenheiten. (Korr.-Bl. d. D. Ges. f. Anthrop., Brnschw., 1908, xxxix, 97.) Describes the "Komplementablankung" method of serum diagnosis, by which, e. g., Bruck distinguishes the White from the Mongolian and Malayan races. The Uhlenbuth method is criticized.

Nestle (E.) Zum Tod des grossen Pan. (A. f. Religsw., Lpzg., 1909, xii, 156-158.) Notes on the legend of the death of the god Pan in connection with the death of Jesus, etc. The basis is found in Plutarch.

Neuberger (O.) Das Jubiläum des Darwinismus und Lazarus Geiger. (Korr.-Bl. d. D. Ges. f. Anthrop., Brnschw., 1908, xxxix, 83.) Calls attention to the fact that the idea of the evolution of man (bodily and mentally) from lower organisms was set forth by Geiger to his *Ursprung und Entwicklung der menschlichen Sprache und Vernunft* sent to the publishers in part in 1859, though the printing did not begin till 1866.

Neumayer (V. L.) Ein Beitrag zur Lehre vom Längenwachstume des Hirnschädels. (Mitt. d. Anthrop. Ges. in Wien, 1908, xxxviii, 1-16, 1 fig.) Treats of the growth in length of the skull of the adult and the human, based on measurements, etc., of 28 skulls of individuals from 19 to 60 years of age, and 50 of infants from birth to 6 mos. According to N. the skull of the child "shows an infantile dolichocephaly, mesocephaly, and brachycephaly altogether different from the dolichocephaly, mesocephaly and brachycephaly of adult skulls." With the child "post-

auricular," and with the adult "preauricular" dolichocephaly predominates, the former being lost in the course of development. The adult skull is produced from that of the child not only through growth but also by means of transformation.

De (Les) mentonniers. (Bull. Soc. d'Anthrop. de Paris, 1908, v^e s., ix, 645-646.) Résumés Dr Bourgette's *Os mentonniers* (Thèse de Paris, 1908), a study of the little bony formations appearing toward the close of intrauterine life between the two lateral parts of the lower maxillary, at the lower part of the symphysis, based on the mandibles of 234 subjects. Their vestiges are represented in the adult by canalicular formations. These bones are peculiar to man alone.

Papillault (G.) Le VI^e Congrès d'Anthropologie Criminelle. L'état actuelle de cette science et les conditions de ses futurs progrès. (R. de l'Éc. d'Anthrop. de Paris, 1909, xix, 28-38.) Résumés the proceedings (published in 1908) of the Sixth International Congress of Criminal Anthropology held at Turin in 1906. The practical side of the science is being more and more emphasized, the elimination and cure of the antisocials, or better the formulation of an effective "preventive social hygiene."

— Le Darwinisme et les fêtes commémoratives de Cambridge. (Ibid., 296-302.) Account of Darwin celebration at Cambridge, England, June 22-24, 1909, with text of address of P. as representative of the École d'Anthropologie de Paris.

— et Hervé (G.) Le cerveau de l'assassin Gagny. Étude morphologique (Ibid., 245-262, 3 figs.) Morphological study of the brain of the assassin Gagny. The frontal, parietal and occipital lobes present numerous anomalies and peculiarities, the temporal lobe being the only one at all normal,—the external face of the left hemisphere seems hardly human in type. Cerebrally Gagny was abnormal, a fact confirmed by his individual history. A note (p. 260) by Dr Siffre shows dental anomalies.

Pearson (K.) On a new method of determining correlation between a

measured character *A*, and a character *B*, of which only the percentage of cases wherein *B* exceeds (or falls short of) a given intensity is recorded for each grade of *A*. (Biometrika, Cambridge, Engld., 1909, vii, 96-105.) Treats of relation of age to anemia (not very marked in children 7-13 years; increases with age in girls, decreases with boys), age and capacity to pass examinations (statistics of London University Matriculation show "a small but sensible correlation between youth and ability to pass"), conscientiousness and cephalic index (correlation zero), effect of enlarged glands and tonsils on the weight of children (association "slight but significant"), effect of employment of mothers on the height of their sons (quite sensible correlation for a given age of child between its stature and the increasing stress due to employment of mother).

— On the inheritance of the deformity known as split-foot or lobster-claw. (Ibid., 1908, vi, 69-79, 8 pl.) Based on radiographic study of three individuals and other investigations of a family scattered through the agricultural district some distance from London. The abnormal seem to be twice as numerous as the normal. No reduced fertility or decrease of intelligence can be noted, and no general appearance of weak constitutions; no cousin marriages. Eugenically the case is serious.

Peet (S. D.) Arrow heads and spear heads. (Amer. Antiq., Salem, Mass., 1908, xxx, 259-266, 4 figs.) Treats briefly of material, quarries, size and shape of bow, use, method of making, types of bow and their distribution, shapes of arrow, etc.

— The natural and the supernatural. (Ibid., 289-306, 5 figs.) General discussion of the garden, the serpent and the tree, the world tree, personification of nature-powers, etc. The author believes that "the mythology of the Old Testament was the beginning of the world's story," and that "the idea of sacrifice is at the basis of all human worship, whether among the Pagans or Christians."

— The patriarchal age. (Ibid.,

1909, xxxi, 80-91.) General account of the life, times and character of Abraham.

Peixoto (R.) José Vicente Barbosa du Bocage. (Portugalia, Porto, 1908, ii, 681, portr.) Sketch of scientific activities and publications of Barbosa du Bocage (1823-1907), "the founder of zoology in Portugal."

— Joaquim Filipe Nery da Encarnação Delgado. (Ibid., 682, portr.) Sketch of scientific activities and publications of Gen. Nery Delgado (1835-1908), geologist and archeologist of note.

Piéron (H.) L'anthropologie psychologique, son objet et sa méthode. (R. de l'Éc. d'Anthrop. de Paris, 1909, xix, 113-127.) Outlines the field and method of psychological anthropology. It includes ethnic and social psychology, criminal and pathological psychology, sexual psychology, ontogenetic and phylogenetic psychology and psychological heredity in man (biometry, etc.).—psychology of individuals, groups, peoples, races.

— Les problèmes actuels de l'instinct. (Bull. Soc. d'Anthrop. de Paris, 1908, v^e a., ix, 503-538.) Treats instinct and its problems (the term "instinct" and its definitions: criteria, delimitation; end of the dogma of immutability of instincts; origin, disappearance of instincts, variation and atavism, etc.). Instincts may have had a double origin,—selection of fortuitous variations and transmission of individual adaptations.

Ploetz (A.) Lebensdauer der Eltern und Kindersterblichkeit. Ein Beitrag zum Studium der Konstitutionsvererbung und der natürlichen Auslese unter den Menschen. (A. f. Rassen- u. Ges.-Biol., Lpzg., 1909, vi, 33-43.) Based on various monographs of Karl Pearson, etc., and on the author's material (5500 children from various German genealogical sources). Pearson's statistics indicate that "great child-mortality of a posterity corresponds generally to its higher mortality and vice versa." The other statistics show that "child-mortality in the first five years of life decreases regularly with the increasing longevity of the parents."

Polak (C.) Die Anatomie des Genus Colobus. (Verh. d. K. Akad. v. Wet.

- te Amsterdam, 11 Sect., DL, XIV, N^o. 2, 1908, x + 247, 63 figs.) Detailed study (bibliogr. 61 titles) of the anatomy of the *Colobus guerza*, a rare monkey from the forest region of S. W. Abyssinia, compared with the *Semnopithecus* and *Hylobates*. The *Colobus* proves that not every seemingly "progressive" character is really such.
- Preuss (K. T.)** Die Vorbedeutung des Zuckens der Gliedmassen in der Völkerkunde. (Globus, Brunschwig, 1909, xcv, 245-247.) Treats of the folk-lore of twitching of the body and its members. Shivering of the body (death is near according to Cora Indians; in Bengal, only he who does not shiver at a blast of wind is near death), "letting go the bones" (Moa of Torres Stra.), "hand-feeling" (Australian blacks), twitching of eyelids (unlucky with ancient Aztec, lucky with Eskimo; Peruvian Indian's right eyelid twitching is good omen, left bad; Canarese of S. India say that right is good for men, but bad for women; similar differences as to upper and lower eyelids in various parts of the globe), ringing in ears, trembling of lips, twitching of arm, hand, foot, etc. (right and left ideas here also), biting tongue in eating, striking teeth together in hating (Bengal), twitching of breast (in mother indicates sickness of child). These "premonitions" from twitching, etc., are probably some of the earliest ideas to be afterwards "worked up" by magic and religion.
- Proctor (H.)** The origin of the art of writing. (Amer. Antiq., Salem, Mass., 1909, xxxi, 168-169.) Notes on ideographic and phonetic bases of representation,—ideas, sounds,—out of which developed word, syllable and letter stages.
- Questionnaire sur les méti.** (Bull. Soc. d'Anthrop. de Paris, 1908, v^e s., ix, 688-693.) Text of questionnaire of 37 items on *méti* prepared by a standing committee of the Society, consisting of MM. Hervé, Lapique, Rivet, Papillault, Baudouin, Rabaud, Schmidt, Zaborowski.
- Radliet (G.)** Sur une anomalie du pariétal. (Ibid., 289-292.) Describes in a girl of 32 months, suffering from impetigo of the scalp, "a partial segmentation of the parietal into two pieces, with an intra-parietal fontanelle," an anomaly running counter to the common conception of the ossification of the parietal bone.
- Ranke (J.)** Jahresbericht des Generalsekretärs pro 1907/08. (Korr.-Bl. d. D. Ges. f. Anthrop., Brunschwig, 1908, xxxix, 83-92.) Contains résumés and critiques of numerous publications in archeology and prehistory (Forrer, Michaelis, Meyer, Schlemm, Obermaier), ethnology (Hagen, Koch, Friederici, Kohlbrugge, Hovarks and Kronfeld, Bronner, Breitenstein, Penka, Bartels, Nagel, Hopf, Guenther, Klotz, Rasmussen), etc.
- Regnault (F.)** Le pied préhensile chez l'homme. Présentation de deux photographies. (Bull. Soc. d'Anthrop. de Paris, 1909, v^e s., x, 41, 42.) Notes on the skill of ectomelians and the prehensile nature of the feet, the "pied pince," etc. In two cases (one living, one skeletal).
- Os pariétaux bipartites sur un crâne atteint de dysplasie. (Ibid., 42-43.) Treats of a case of bipartite parietal bones in a skull affected by fetal dysplasia. Synostosis of sutures is also noted.
- von Reitzenstein (F.)** Der Kausalzusammenhang zwischen Geschlechtsverkehr und Empfängnis in Glaube und Brauch der Natur- und Kulturvölker. (Z. f. Ethnol., Berlin, 1909, xli, 644-683, 6 figs.) Treats of the ideas of primitive and civilized peoples (beliefs, customs, etc.) as to the causal relations between coitus and pregnancy: Australians (*churinga*-theory, coitus pleasure only, *mika*-operation a sort of homosexuality); ancient Mexicans (plant-soul, supernatural impregnation, etc.); India (tree-soul, symbolic marriage, fixation of father); development of belief in impregnation ("home of children," relation of soul and body, plants and parts of plants as carriers of impregnation, animals as carriers and media; the magic of fertility,—demons, sun, moon and wind, deities, "chastity-nights," fertility-festivals and puberty-ceremonies, shamans and magicians), etc.; the mythopoetic effects of the old ideas as to coitus, impregnation,

fertility, etc. According to v. R., the beliefs, legends and customs of all peoples indicate for the earliest men a period when the relation of coitus to conception was utterly unknown (cf. certain Australian tribes); then came a second period in which cohabitation was regarded as a part (but not the chief) of the prerequisites for conception, and as before the supernatural was the most important factor.

Report of Committee [of Amer. Anthrop. Assoc.] on archeological nomenclature. (Amer. Anthropol., Lancaster, Pa., 1909, N. S., XI, 114-119.)

Rivet (P.) Recherches sur le prognathisme. I. Étude théorique et critique. Exposé d'une technique nouvelle pour les mesures d'angles. (L'Anthropologie, Paris, 1909, XX, 35-49, 175-187, 10 figs.) Treats of the different conceptions of prognathism, multiplicity of *points de repère*, criticisms of methods (linear, angular, radial relations, naso-basal angle,—the ideal method must have the advantages of the angular methods and radial relations without their defects) and explains the technique of a new method,—the nasion-alveolar-basilar.

Röck (F.) Das Vorkommen des Pentagramms in der Alten und Neuen Welt. (Globus, Brunschwig, 1909, xcv, 8-p.) Treats of the pentagram (pentalfa, "Drudenfuss," witch-cross, etc.) in ancient Babylonia (goes back at least to 8th century, B. C.), among the Pythagoreans (*signum Pythagoricum*), Cabalists; in the cult of the Virgin, folk-lore, etc. R. sees the pentagrammatic succession in the hieroglyphs of the day-signs on the "Mexican calendar-stone"; the pentagram occurs also on an old Indian tent in the Berlin ethnological Museum.

Romagna-Manoia (A.) Contributo allo studio della sindattilia. (R. di Patol. nerv., Firenze, 1909, XIV, 252-259, 4 figs.) Describes case of syndactyly in man of 54 years from Reggio Calabria,—ectrodactyly, megadactyly, microdactyly of hands, syndactyly and brachydactyly of feet. Heredity and degeneracy are noted.

Sartori (P.) Das Wasser im Totengebräuche. (Z. d. V. f. Volksk., Ber-

lin, 1908, XVIII, 353-378.) A well-documented account of the use of water in connection with the dead in all ages and among all peoples. Use of water before death (pail placed near; water poured on dying or in face, etc.); washing the body after death (with warm water; by special persons; washing of certain portions only of body; vessels, cloths, etc., used in washing corpse; disposal of water with which corpse has been washed; its medicinal and other virtues, its use in magic and folk-medicine; washing of bones of dead and reburial, as among certain American Indian tribes; throwing away of water in the house when death occurs, or a funeral passes; avoidance of passing over water in a funeral or when carrying a corpse; sprinkling the new-made grave with water; washing, sprinkling, etc., the survivors or relatives, and, especially those concerned in the burial; washing, etc., at a shorter or longer time after the burial; special washing, etc., of women, or of widows and widowers; washing of the clothes and other objects belonging to the dead; washing the house of the dead, especially the death-room, the place where the corpse rested, etc.; provision of water for the dead in his journey to the other world, etc. Many are the devices for defending the dead and defending the survivors from him connected with the use of water. To the feeding of the dead corresponds the "bath of the soul" and the thirst of the spirits.

Schmidt (W.) Über die entwicklungsgeschichtliche Stellung der Pygmäenstämme. (Korr.-Bl. d. D. Ges. f. Anthropol., Brunschwig, 1908, XXXIX, 107-108.) Rejects Schwalbe's theory of the pigmies as "Kümmerformen," and although limiting the pigmies to the curly-haired races (Veddas, Senoi, Toalá are only "secondary" pigmies), he agrees with Kollmann in interpreting the most of their bodily peculiarities as "infantile characters."

— L'origine de l'idée de Dieu. (Anthropos, Wien, 1908, III, 801-836, 1081-1120; 1909, IV, 207-250, 505-524.) These sections of Father Schmidt's monograph on "the origin of the idea of God" are de-

voted to the consideration of criticisms of Lang's theory by Howitt, Tylor, Hardland, Foy, Marett, Van Genasp, etc., and to the author's ideas on the subject of "the supreme beings of the native Australians and questions connected therewith." Preanimistic theories of magic (Guyau, J. H. King, Marett, Hubert, Mauss) are also considered.

Neuentdeckte Papuasprachen von den Salomoninseln, Bougainville. (Globus, Brunschwig, 1909, xcv, 266-267, map.) Gives, after the missionary P. Rausch, a brief outline of the speech of the Nariói, an inland language of Bougainville Id., which seems to belong to the Papuan stock. Other languages of the interior (Teléi, Motúna, Kóngara, etc., are probably also Papuan.) The Nariói is also erroneously called Kletá.

Schwalbe (G.) Kohlbrugge, Die morphologische Abstammung des Menschen. (Ibid., 1908, xciii, 341-346.) Critical review of Dr J. H. F. Kohlbrugge's recent book, *Die morphologische Abstammung des Menschen* (Stuttgart, 1908). Kohlbrugge holds that the descent of the body has nothing to do with the psychical development of man. He favors de Vries's mutation-theory to a considerable extent, and is unsympathetic toward the theory of descent. K. holds that "the races are psychologically different but yet equivalent." Many alleged physical differences he discounts. Schwalbe disagrees with K. on many points.

Seconda Reunione (La) della Società Italiana per il Progresso delle Scienze. (A. p. l'Antrop., Firenze, 1908, xxxviii, 335-337.) Résumés papers read before Anthropological-Ethnological Section by Livi, Gluf-frida-Roggeri, G. Sergi, Loria, etc.; and before Archeological-Paleoethnological Section by Milani, Regalia, etc.

Signorelli (A.) Il diametro vertebrale o altezza dei polmoni. (A. d. Soc. Rom. di Antrop., Roma, 1908, xiv, 219-238.) Based on investigation (detailed measurements are given) of the "height of the lungs," or "vertebral diameter," tested in the living (200 individuals, all males 2-79

years) by percussion of the vertebral column. The lung-height varies with age, stature, height of vertebral column, transverse and antero-posterior diameters of thorax, Broca's thoracic index, abdominal height, bi-iliac diameter. In infants the lungs are relatively longer, in adolescents relatively shorter than at other ages. In youth they lengthen and so also in the adult, then decrease somewhat, to increase again in old age. In adults the average lung-height is 30 cm., i. e., about 16.4% of the stature. In children it is 18.94%. In woman it is about 1 cm. shorter than in man.

Smiley (J. B.) The communion ceremony. (Open Court, Chicago, 1909, xxiii, 513-525.) Compares the ceremony of the Christian church with practices among the ancient Mexicans, Australian blacks, Chinese, Egyptians, Tibetans, Samoans, etc. According to S., the ceremony goes back to the killing and eating of a "man-god" to acquire his powers. See Carus (P.).

Smith (W. B.) The mystic number nine. (Open Court, Chicago, 1909, xxiii, 380-382.) General ideas.

Snouck Hurgronje (C.) In Memoriam: Michaël Jan de Goeje. (Int. Arch. f. Ethnogr., Leiden, 1909, xix, 49-54, portr.) Sketch of life, scientific activities, publications, etc., of M. J. de Goeje (1836-1909), ethnologist and orientalist.

Spencer (C. L.) Notes on the cross-bow. (Trans. Glasgow Archeol. Soc., 1908, n. s. v, 186-197, 5 pl.) Treats of the cross-bow, its use in Europe, China, method of manipulation, missiles, comparison with long-bow, types, survival, etc. The Roman *ballista* (and possibly also the *manuballista*) was a sort of cross-bow. According to S., the only work on the cross-bow, ancient or modern, is Sir Ralph Payne-Galwey's *The Cross-bow: Medieval and Modern*, etc. (London, 1903).

Stern (C. u. W.) Die zeichnerische Entwicklung eines Knaben vom 4. bis zum 7. Jahre. (Ztschr. f. angew. Psychol., Lpzg., 1909, iii, 2-31, 4 figs., 12 pl.) Detailed account of the development of drawing in the son of Professor and Mrs Stern during

the period from the 4th to the 7th year.

Stewart (C. T.) Die Entstehung des Werwolfglaubens. (Z. d. V. E. Volksk., Berlin, 1909, xix, 30-51.) In this brief but well-documented study, the author seeks a general world-wide explanation for the belief in the werwolf (lycanthropy), which is "most ancient and belongs to primitive man." The starting-point is found in the primitive custom of putting on the skin (clothing) of an animal (e. g., a wolf). This was first done as a protection against cold, and as a means of obtaining food by enticing animals; then personal uses, — robbers, spies, individuals seeking vengeance or power over others, — came into play; after this professional shamans and superstitious persons invented fabulous stories, etc., which were transmitted as tradition or *sage*. The idea of the injurious nature of the werwolf S. explains from the fact that to the spies or food-seekers, who put on animal-skins to avoid discovery by enemies, later fabulous accounts attributed the qualities of the animal they represented, and finally asserted that they actually assumed for a longer or a shorter time the form of the animal itself. Many proper names are of interest here as indicating the correlation of skill, boldness, etc., in man and animal (Rudolf, Adolf, Wulfila, — and among primitive peoples the bear, wolf, etc., have given rise to very many such). The origin and development of the use of masks, etc., are much the same as in the case of the animal's skin.

— The origin of the werwolf superstition. (Univ. of Missouri Studies, 1909, Soc. Sci. Ser., II, 253-289.) English version of previous article by Miss S.

Stolyhwo (K.) Zur Frage der Existenz von Uebergangsform zwischen *H. primigenius* und *H. sapiens*. (Globus, Braunschwg., 1908, xciv, 363-365.) S. replies to criticisms of G. Schwalbe, and maintains his belief in the existence of transitional forms (occurring even in historical times) between *H. primigenius* and *H. sapiens*.

Stratz (C. H.) Atavismus des men-

schlichen Ohres. (Arch. f. Anthrop., Braunschwg., 1908, N. F. VIII, 146-147, 3 figs.) Brief account of two cases, both normal children of normal parents, presenting ear-atavisms. The first, at birth, showed the human-form of the *Cercopithecus* ear with *Spina Darwini*, and hair-clumps on outer edge; the second, observed during the 7th week of life, presented the *Cercopithecus* type with more marked *Spina Darwini*, and hair-clumps. The only other case of externally pilose outer ear was noted by Schwalbe. Careful observation will probably show such pilose ears to be much more common than is now thought.

Tandler (J.) u. Gross (S.) Über den Einfluss der Kastration auf den Organismus. I. Beschreibung eines Eunuchenskelets. (Archiv. f. Entwicklungsgesch. d. Organ., Leipzig, 1909, LXXII, 35-61, 16 figs.) Describes the skeleton of a 28-year-old Zanzibar negro (eunuch) who died of tuberculosis of the lungs, etc., in Vienna in February, 1907, with anthropometric measurements (skull and pelvis in particular), and comparisons with other eunuch-skeletons. The results confirm generally previous observations. Some of the organs and parts are childlike or magnified childlike rather than female in type.

Thibon (F.) Les hominides et anthropomorphides comme constituant un seul ordre. (An. Soc. Cient. Argent., Buenos Aires, 1908, LXVI, 148-155.) Discusses the classification of the primates, according to Linnaeus, Broca, Railliet, Perrier, Ameghino, etc., and proposes a new classification by the thoracic index (man and the anthropoids are all brachio-thoracic, all the other mammals including the lower monkeys, dolichothoracic). This makes one class of the *Hominidae* and *Anthropomorphidae*, and another of the *Simioidae* and *Prosimians*, etc.

Thomson (A.) Daniel John Cunningham. (Man, Lond., 1909, IX, 97-99, portr.) Sketch of life and scientific activities of Prof. D. J. Cunningham (1850-1909), anatomist and anthropologist, author of studies on the lumbar curve in man and apes; Cornelius Magrath, the Irish giant; brain

and head of the microcephalic idiot; righthandedness and leftbrainedness; evolution of the graduation ceremony; the stomach in man and the anthropoid apes; the Australian forehead, etc.

Thulié (H.) *Phénomènes mystiques dans l'ordre affectif des théologiens.* (R. de l'Éc. d'Anthrop. de Paris, 1908, xviii, 329-348.) Treats of precocity of emotion, love, etc., in saints and religious persons of note, marriage to the church, to Jesus, God, etc.,—particularly Catherine of Siena, St. Theresa, St. Francis of Sales, etc. The subject is treated in detail in T.'s book *La Mystique* (Paris, 1909).

Tozzer (A. M.) The Putnam anniversary. (Amer. Anthrop., Lancaster, Pa., 1909, 2. s., xi, 285-288, portr.)

Varlot (G.) L'accroissement statural et l'accroissement pondéral chez le nouveau-né. (Bull. Soc. d'Anthrop. de Paris, 1908, 4^e s., ix, 283-289.) Based on measurements of the height and weight of 440 (boys 220, girls 220) infants, from birth to 10 days old, in the Maternité de l'Hôtel-Dieu, the Clinique Tainier, the Hôpital dépositaire des enfants-Assistés, and the Hôtel-Dieu annexe, in Paris. According to the results the growth of stature and the growth of weight have their own independent individualities even in pathological conditions. The osseous system approaches the nervous system which is normally anticipatory as to growth over almost all the other organs.

von den Velden (F.) Aussterbende Familien. (A. f. Rassen- u. Ges.-Biol., Lpzg., 1909, vi, 340-350.) Based on study of some 1400 marriages (3% childless; 2.3% no children attain marriage). Extinction once begun seems to be progressive.

Verworm (M.) Ein objektives Kriterium für die Beurteilung der Manufakturnatur geschlagener Feuersteine. (Z. f. Ethnol., Berlin, 1908, xl, 548-558, 2 figs.) Gives result of examination of flints from La Micoque, Le Moustier, Abri Audi (Les Eyzies), Abri de Laussel, Gorge d'Enfer, Cro-Magnon, Laugerie Haute, Laugerie intermédiaire, grotto of Les Eyzies, Tasmania, Puy de Boudieu. (Sgg in all) with respect to the rule of one-sided edge-working. Paleolithic

worked flints show generally a percentage of 95 following the rule, exceptions 5%.

Vierkandt (A.) Zur Reform der völkerkundlichen Aussenarbeit. (Globus, Brnschw., 1908, xciv, 79-82.) Discusses the reform of ethnological field-work, need of closer touch with theory and museum and home work, etc. What is needed is fixed organization, lengthy sojourn of travelers and investigators in the regions to be studied, increase in the numbers of students, keeping of diaries and other detailed records (so that variation in phenomena may be noted), more system and accuracy in the publication and use of observations, material, etc. Folk-lore, too, needs similar attention. V. illustrates the needs discussed from researches relating to the origin of the domestication of animals, agriculture, work (properly so called), drawing and primitive art, myths, family life, secret languages, etc.

Virchow (H.) Stand der Rudolf Virchow-Stiftung für das Jahr 1908. (Z. f. Ethnol., Berlin, 1908, xl, 972-978.) Account of the activities of the Virchow Foundation for 1908: Reproduction of Mansfeld's photographs of scenes (illustrating customs, etc.) of life among the Cameroon tribes; excavations in the Einhorn cave (analysis of earthenware); copies of Bushman paintings; excavations on Monsheim Frobenius's expedition to W. Africa (large numbers of photographs, drawings, ethnological specimens, etc.); excavations at Ehringsdorf; Weissenberg's investigations of the physical characters (dolichocephaly thought to mark the old Hebrews; lost on the way to Europe); list of grants.

Vogt (H.) Neuere Ergebnisse der Hirnanatomie und deren Beziehung zu allgemeinen Fragen. (Korr.-Bl. d. D. Ges. f. Anthrop., Brnschw., 1908, xxxix, 132-134.) Discusses recent studies in brain-anatomy, those of Brodmann in particular, whose investigations of anthropoids and man showed, e. g., that with respect to the *Area striata*, racial differences existed, "the Javanese being here midway between the higher apes and

man." Not all portions of the cortex have the same structure.

Ward (D. J. H.) The classification of religions. (Monist, Chicago, 1909, XIX, 95-135.) Concluding section. Treats of classifications based upon geographical distribution and statistics (recent estimates), on philosophies of religion (Pfleiderer), on racial relationship (according to linguistic affinity, etc.). Dr W. himself gives (pp. 121-133) "a tentative ethnographic-historical classification of the human races to facilitate the study of religions (in 3 divisions)," which can hardly be approved.

Weinberg (W.) Zur Bedeutung der Mehrlingsgeburten für die Frage der Bestimmung des Geschlechts. (A. f. Rassen- u. Ges.-Biol., Lpzg., 1909, VI, 28-32.) Discusses the statistics of plural births in Saxony in relation to sex of children in order of birth and calls attention to certain contradictory phenomena.

— Die Anlage zur Mehrlingsgeburt beim Menschen und ihre Vererbung. (Ibid., 322-339.) First section of discussion of the tendency toward plural births in man and its inheritance. Individual differences are specially considered.

Weiss (L.) und v. Schwarz (M.) Strichprobe zur Erkennung vorgeschichtlicher Bronzen und Kupfergegenstände. (Korr.-Bl. d. D. Ges. f. Anthrop., Brnschw., 1909, XI, 11-12.) Note on a test for prehistoric bronze and copper objects,—by scratching and comparing with objects known to contain a certain percent. of tin. The comparison of the colors will then disclose real prehistoric bronze and copper.

Weissenberg (S.) Das Wachstum des Menschen nach Alter, Geschlecht und Rasse. (Globus, Brnschw., 1908, xciv, 101-109, 4 figs.) Discusses the growth of the human body according to age, sex and race (with curves and tables), with reference to the many investigations of the last 30 years. Dr W. concludes that the 6 following general periods of development in stature may be recognized: 1, Period of excessive growth up to 5th or 6th year, the years from 3 to 5 being characterized by slower growth. 2, Slow increase in height until by the

10-12th year, three-fourths of the definite height is reached. 3, Increased rate of growth lasting till 17-18th year. 4, Only moderate growth, lasting to the 25th year. 5, Period of adult manhood lasting to about the 30th year with stature constant. 6, Old age with diminished stature. The increased growth is a direct consequence of the maturing-process, which occurs with males a few years later than with females. The period of increased growth (or puberty-period) is of great importance because before it comes neither the peculiarities and qualities of race, nor those of sex or of the individual clearly appear, such differentiation becoming complete only after it. Environmental influences also are most powerful during this period.

Westermarck (E.) Reinlichkeit, Unreinlichkeit und Askese. (Ibid., 1908, xciii, 109-113.) Reprinted from the German translation of Vol. II of Westermarck's *Origin and Development of the Moral Ideas* (London, 1908).

Wetzel (G.) Eine einfache Messvorrichtung zur Winkelmessung an Wirbeln. (Korr.-Bl. d. D. Ges. f. Anthrop., Brnschw., 1909, XI, 34-37, 5 figs.) Describes a simple apparatus, constructed by the author, for measuring angles of the human vertebrae.

Weule (K.) Gründung des Vereins für Völkerkunde in Leipzig. (Z. f. Ethnol., Berlin, 1908, XL, 616-619.) Brief account of the founding of the Leipzig Ethnological Society, really a revivifying, and extension of the "Museum für Völkerkunde zu Leipzig." The first general session was held on April 14, 1908.

Whitley (D. G.) The high intellectual character of primeval man. (Rec. of Past, Wash., D. C., 1909, viii, 39-56, 2 figs.) W. cites the improbability of such peoples as the Australians, Fuegians, Minkopis, etc., language (uses Hale's article to prove that "many of the American aborigines . . . are the savage descendants of cultured ancestors"), certain arguments of Wallace, Hugh Miller, the character of glacial man in Europe (clothing, weapons, defense against the animal world) and of savage man elsewhere, to support the view that the ancestors

of modern savages were once in a far higher state of culture.

Woods (F. A.) Recent studies in human heredity. (Amer. Naturalist, 1908, 685-693.) Critical résumés of Dr V. Galippe's *L'hérédité des stigmates de dégénérescence et les familles souveraines* (Paris, 1905), the recent *Eugenics Laboratory Memoirs* by Schuster and Elderton, Heron, the Drapers' Company Research *Studies in National Degeneration*, by Pearson, etc. W. regards Galippe's work as unsound, and hopes that "in the end there may be harmony between the two unfriendly schools, the Mendelian and the Biometrical."

Zachariae (T.) Das Vogelnest im Aberglauben. (Z. d. V. f. Volksk., Berlin, 1909, xix, 143-149.) Notes on superstitions concerning birds' nests,—particularly the origin of the belief that "if in finding a bird's nest, the young are kept and the mother let go, this will ensure to the finder luck and long life." Z. thinks the correct version of the saying is, "If anyone finds a bird's nest, with the mother and eggs or young in it, and the mother does not fly away, etc." That the belief goes back to Deut. 22, 6 may be doubted.

Das Dach über einem Sterbenden abdecken. (Ibid., 1908, xviii, 442-446.) Treats of the rather widespread superstitious procedure of uncovering the roof over a sick man, who can not die, or whose death it is desired to hasten.

EUROPE

Abt (A.) Von den Himmelsbriefen. (Hess. Bl. f. Volksk., Lpzg., 1909, viii, 81-100.) Treats of "letters from heaven." Refers to 29 examples, divided into 6 groups according to the nature and number of the component parts. The Holstein type of "letter from heaven" goes back to about 1724 A. D.; the Gredoria type is much older.

Alaberg (M.) Neu aufgefunden fossile Menschenreste und ihre Beziehungen zur Stammesgeschichte des Menschen. (Globus, Brnswgw., 1909, xcv, 261-267, 2 figs.) Discusses recent finds of fossil human remains and their relations to the evolution

of the race: The *Homo mousteriensis* of the Dordogne, thought by Klaatsch to be ancient diluvial and related closely to the Neanderthal type; the skeleton of La Chapelle-aux-Saints found in cave in the department of Corrèze,—in a side valley of the Dordogne, also Neanderthaloid, perhaps later than the Mousterian man; the *Homo heidelbergensis*,—the associated remains seem to indicate a much earlier date than that of the Neanderthal race. The Heidelberg jaw favors the opinion of those who, like Klaatsch, and, most recently Bonarelli, recognize several groups of primates (gorilla, chimpanzee, *Hominidae*, gibbon, orang), whose common ancestor lived in the Miocene. The *Pithecanthropus*, the man of Heidelberg, and the Neanderthal man are all in the human line, which has been unconnected with the others since the Miocene.

Andree (R.) St. Georg und die Parilien. (Ibid., 1908, xciii, 251.) Note on article by J. G. Frazer in the *Rev. d. Etudes Ethnogr. et Sociol.* (Paris) for 1908. A. points out, in addition to F., that St. George is honored in Germany (here too in connection with cattle; at Ertingen in Swabia on April 21 occurs the "Jörgenritt," when often 1000 horses are blessed). In S. Germany St. Leonhard is cattle-patron.

Atgier (M.) Les mégalithes de la Vienne. (Bull. Soc. d'Anthrop. de Paris, 1909, v^e s., x, 45-48, 5 figs.) Treats (with maps) of the distribution of megaliths in the arrondissements of Civray, Loudun, Montmorillon, Poitiers, Châtellerault, etc.

Auriol (M.) Un mortier romain servant de bénitier dans l'église de Villardonnell. (Bull. Soc. Archéol. du Midi, Toulouse, 1908, n. s., no. 38, 234-236, 2 figs.) Describes, in comparison with a similar object from Toulouse, a Roman mortar serving as a holy-water vessel in the church of Villardonnell (Aude).

Baldacci (A.) Die Slawen von Molise. (Globus, Brnswgw., 1908, xciii, 44-49, 53-58, 6 figs., map.) Treats of the Slav colonists of the communes of Acquaviva Collecroce, S. Felice Slavo, and Montemitro in the Molise district of S. E. Italy, between the

rivers Trigno and Biferno, their history, etc. These Slavs speak a Serbian-Croatian dialect, in which there are many deformed Slavonic words and a considerable Italian element (the women speak Slav only, as a rule, and up to 15 years ago the men knew little or no Italian). Customs, dress, songs, etc., are gradually changing. The Slavic national dance, or *kolo*, has been replaced by the *spallata* or *taranella*. Blood-revenge is unknown or forgotten. Several festivals (e. g., the national feast of S. Blasius) are still kept up. The region has many place-names of Slavonic origin. The Slavs of Acquaviva Collecroce, etc., go back to the beginning of the 16th century. Nicola Neri, one of the martyrs for Italian liberty in 1799, was a Slav from Acquaviva.

Bartolomäus (R.) Das polnische Original des Volksliedes An der Weichsel gegen Osten. (Z. d. V. f. Volksk., Berlin, 1909, xix, 1909, 314-316.) Cites, with literal German version, the Polish text of "The Uhlan and the Maiden," a folk-song relating to the war of 1831. Also the text of "An der Weichsel gegen Osten," a popular soldier's song in Germany and Bohemia, to which B. assigns a Polish origin (viz. the song here cited), in opposition to Bruinier (*Das deutsche Volkslied*, 1908), who traces it back to the German "Elisabethsage."

Baudouin (M.) Étude d'un crâne pré-historique à triple trépanation, exécutée sur le vivant. (Bull. Soc. d'Anthrop. de Paris, 8^e s., ix, 1908, 436-450, 2 figs.) Detailed description with measurements of a young adult female dolichocephalic and platycephalic skull, probably neolithic from Limoges, exhibiting three small *ante mortem* trepanations (anterior left parietal, anterior right parietal, posterior right parietal), possibly for ritual-therapeutic purposes.

— La grotte de Jammes à Martiel (Aveyron). Étude anthropologique et anatomo-pathologique des ossements trouvés. (Ibid., 746-784, 3 figs.) Treats of topography, nature of grotto, finds of human bones (portions of 7 individuals, including

one complete skull). The human remains were probably carried into the cave by flood. The pathological lesions suggest the Middle Ages as the period to which they belong. The "Toulousan deformation" seems to occur in some of the skulls.

Bechtel (F.) Ueber einige thessalische Namen. (Nachr. v. d. Kgl. Ges. d. Wiss. zu Göttingen, Phil.-hist. Kl. 1908, 571-580.) Brief etymological and historical notes on some 40 names from Thessalian inscriptions.

Beck (P.) Volkgericht im Montavon. (Z. d. V. f. Volksk., Berlin, 1909, xix, 95.) Note on the folk-justice of the exclusive people of Montavon. Foreigners who courted native maidens were tied to a small cart and placed in the Alfenz, a mountain-stream running into the Ill, and left there. If the Alfenz rose high over night the victim was drowned; if no one passed by soon, he starved to death. A law-case involving this custom is on record soon after 1805 when the Vorarlberg, previously Austrian, became Bavarian.

— Zwei Satiren in Gebetsform auf Tököly und Ludwig XIV. (Ibid., 186-187.) German texts of *Das Vater Unser vor den Erz-Rebell Tököly* and *Ein offen Schuld des Königs in Frankreich*. See Mehring (G.)

Beddoe (J.) A last contribution to Scottish ethnology. (J. R. Anthropol. Inst., Lond., 1908, xxxviii, 212-20, 1 pl.) Critique of the paper of Mr John Gray on the pigmentation survey of Scotland and "map to illustrate the tables into which I have boiled down those of Messrs. Gray and Tocher." Dr B. thinks that, with respect to the index of nigrescence, "racial and historical causes will account for most of the phenomena (among which is the fact that most of the fairest districts lie well towards the south), while urban selection may be appealed to for an explanation of the rest." Climatic influences are "indistinct."

Bellucci (G.) Accette di selce levigate in Italia e questioni relative. (A. p. l'Antrop., Firenze, 1908, xxxviii, 259-273, 1 pl.) Describes and figures 7 polished axes of stone (in the author's private collection) from

various parts of Italy, proving (contrary to the view of Chierici (in 1882) and some later authorities) that in Italy, as elsewhere, polished stone axes are not a mere importation, but represent a progressive transformation of arms and instruments of stone, from the paleolithic to the neolithic period.

Balta (R.) Das neolithische Grabfeld von Ostdorf bei Schwerin. (A. f. Anthrop., Braunschwg., 1909, N. 7, VII, 268-298, 2 pl., 15 figs.) Treats briefly of 24 graves in neolithic cemetery at Ostdorf and the objects found therein,—human skeletons, flint and other stone implements, awls and other objects of bone and horn, ornaments of horn, pierced teeth of animals, pearl bead (in form of a double axe), bones of animals, pottery, etc. These finds belong to the West Baltic late-neolithic (stage of the great megalithic graves of Montelius's third stone-age period). See Schliz.

Berkusky (H.) Die Lage der russischen "Fremdvölker." (Globus, Braunschwg., 1909, XCV, 165-171, 186-191.) Treats of the vital statistics, material conditions, morals, intellectual culture, etc., of the "foreign peoples," who number 22,149,725, or 17.58% of the population of the Russian Empire outside of Finland, Bokhara and Khiva. The Turkotatars (13,601,251) are the most numerous; next come the Ugrians and Finns (3,502,147), the Asiatic Indo-Europeans (2,002,736) and the Cartvelians of the Caucasus (1,352,535). There are still 3,978 Kamchadales; and the Eskimo and Aleuts of the N. E. Siberian coast number respectively 1,009 and 584. The economic condition of the northern group of tribes is by no means satisfactory, a fact due partly to contact with the whites; but in S. E. Russia the condition of the Tatars is better than that of the surrounding population. The Bashkirs seem to be deteriorating, owing to intoxicating liquors in part. The Turkomans have made surprising progress. The sanitary conditions of the non-Russian peoples are in general very unfavorable (great child-mortality, infections and contagious diseases, dirt, alcoholism, etc.). The position of woman un-

ally low and moral conditions bad (Turkoman women better off). Schools have hardly begun their work among many of these peoples, and their Christianity is often a mere skin over old heathenism, to which not a few still cling altogether. But the Kasan-Tatars count fewer illiterates than their Russian neighbors, Russian culture is still young and the Russian himself half-Asiatic, so progress is necessarily slow.

Berzenberger (A.) Vorgeschichtliche Anslekten. (Z. f. Ethnol., Berlin, 1908, XI, 760-771, 21 figs.) Notes on ancient Carthaginian clay vessels with eye-ornaments; flint sword-blades or daggers nicked at the haft, from various parts of prehistoric Europe; bronze-objects from Spain resembling the stone idols and female terra-cotta figurines from Mycenae, etc.; copper axes, etc., from Spain (chemical analyses); Iberian slate (ornamented) amulets, etc.

Billson (C. J.) The "Jass" at Thun. (Folk-Lore, Lond., 1909, XIX, 438-440, 1 pl.) Treats of the "Jass" or "Jester," a sort of "Whipping Tom," in connection with the annual shooting feast in October at Thun, Switzerland.

Blümmel (E. K.) Zur Ballade vom Ritter Ewald. (Z. d. V. f. Volksk., Berlin, 1908, XVIII, 431-433.) Cites 3 versions (a Transylvanian of 1862 from Kronstadt; a Moravian from Neustift; an Upper Austrian of 1870 from Leonfelder) of the ballad of "Ritter Ewald."

Body (A.) L'art de l'incrustation à Spa. (B. de l'Inst. Arch. Liégeoise, 1907, XXXVII, 287-294, 3 pl.) Describes a bellows, powder-box, clothes-brush, exemplifying the art of incrustation, formerly practised at Spa. It came to Europe, apparently in the wake of the returning Crusaders, with other Oriental influences.

Bolling (G. M.) A visit to the Forum Romanum. (Cath. Univ. Bull., Wash., 1909, XV, 211-232.) Treats of discoveries since 1898 chiefly: House of vestal virgins, Heroon of Maxentius, Templum Pacis, Church of SS. Cosmas and Damian, Lacus Intemnae, Oratory of the Forty Martyrs, etc.

Bolte (J.) Bilderbogen des 16. und 17. Jahrhunderts. (Z. d. V. f. Volksk., Berlin, 1909, xix, 31-82, 6 figs.) Continuation of study of picture fly-leaves, etc., of the 16th and 17th centuries, the verses and songs accompanying the engravings, etc.: "The Wooer's basket" ("New basket full of Venus-children"), "The lover on the fool's rope," Bigorne and Chicheface in Holland and Germany, the *Hahnrei* (horn-bearer, cuckoo, etc.), and *Hahnweiler* and *Hennereiterin*, etc. These deal with bachelors, cuckolds, etc.

— Neuere Arbeiten über das deutsche Volkslied. (Ibid., 219-234.) Brief reviews and critiques of recent literature (chiefly 1907-1908) on the German folksong. Among the most important works are Böckel's *Das deutsche Volkslied* (Marburg, 1908), Wehrhan's *Kinderlied und Kinderspiel* (Leipzig, 1908), Schell's *Das deutsche Volkslied* (Leipzig, 1908), Uhl's *Winnlied* (Leipzig, 1908), Rieser's *Des Knaben Wunderhorn und seine Quellen* (Dortmund, 1907), Hartmann's *Historische Volkslieder* (München, 1907), Blüml's *Schammerlieder* (Wien, 1908), Wossidlo's *Mecklenburgische Kindertwarte und Kindersucht* (Wismar, 1906), Thuren's *Folhesangen paa Faeroerne* (København, 1908), etc. The periodical literature is also discussed.

— Weitere Predigtparodien. (Ibid., 182-185.) Cites, from various sources 6 examples of sermon-parodies in German and notes their relations to Märchen and folklore. In this connection Lehr's *Studien über den komischen Einzelvortrag* (Diss. Marburg, 1907) is of interest. See Müller (C.).

— Ein Reimgespräch zwischen Prinz Eugen und Villeroi, 1702 (Ibid., 190-194). Text partly in "broken German," of a dialogue between Prince Eugene and the Duke of Villeroi. See also pp. 188-190.

— Zum Märchen von den Töchtern des Petrus. (Ibid., 314.) *Résumés* from Brenner's *Besuch bei den Kannibalen Sumatra's* (1894), a Batak parallel for the Danish tale of the origin of bad women.

— Der Nussbaum zu Benevent.

(Ibid., 312-314.) Bibliographical notes on the famous "Nut-tree of Beneventum" and the legend connected with it, known to the Grimms. This tree is mentioned as early as 1521 as a seat of the witches' dances and meetings. In 1635 Piperno, a Beneventan physician, published a monograph, *De nucce magis Beneventana*.

— Zur Sage vom Traum vom Schätze auf der Brücke. (Ibid., 289-298.) B. points out that "the tale of the dream of treasure on the bridge," as Grimm showed in 1860, is widespread in Germany and elsewhere, the oldest German version dating from the 14th century, its origin, however, to the 12th, a Lower Rhenish version of *Mainet* (soon after 1300), beginning with a cognate tale. Other celebrated bridges are the Regensburg, Kampen, Lübeck, Bremen and more than a score of others from Amsterdam to Palermo. According to B., the tale in the *Mainet* (French-Lower Rhenish) is based on an Oriental story brought to Europe in the time of the Crusades. See Lohmeyer (K.).

— Ein Lobspruch auf die deutschen Städte aus dem 15. Jahrhundert. (Ibid., 300-304.) Cites from Mss. in the Hamburg Public Library and Nürnberg National Museum the text of a 15th century panegyric of German cities. Munich is praised for *wine not beer*. The old German drink *mei* (mead) is highly praised.

— Zeugnisse zur Geschichte unserer Kinderspiele. (Ibid., 381-414, 1 fig.) Cites mention of children's games, etc., by 46 authorities, from Meister Ingold in 1432 A. D. to Goethe's mother in 1786,—also 10 citations for card-games of adults. At pp. 412-414 is an alphabetical list (ABC-Zwölftte) of the plays and games referred to,—some 440 altogether.

— Die Herkunft einer deutschen Volksweise. (Ibid., 418-421.) Treats of a French dance-tune of the 17th century which has given rise to several German folk-songs.

— Heinrich Runge's schweizerische Sagensammlung. (Schw. Arch. f. Volksk., Basel, 1909, xiii, 161-176.) Brief account of the Swiss folk-tale

- collections of H. Runge (d. 1886) and the German texts of 18 tales from his *Ms.* now in the Märkisches Museum, Berlin. They represent the beginning of a work on the *Sagen der Schweiz*, entered upon in 1850-1855. The tales relate to dragons, snakes, witches, dream of treasure on the bridge, "white woman," silly Peter, etc.
- Bonnier (C.)** *Les romanichels à la chambre.* (J. Gypsy Lore Soc., Liverpool, 1908, N. S., 1, 270-272.) Notes on the debate on the Gypsies in the French Chamber of Deputies, Oct. 20, 1907, on the interpellation of M. F. David.
- Bosson (Mrs J. C.)** Sicily, the battlefield of nations and of nature. (*Nat. Geogr. Mag.*, Wash., 1909, XX, 97-118, 17 pl., 1 fg.) Treats of ancient temples at Girgenti, the prison-quarries of Syracuse, the temples of Selinus (Selinunte), Palermo (Panormus), where Chaldeans, Greeks, Romans, Goths, Saracens and Normans have left their marks. Most of the illustrations are of ethnic types, etc.
- Boule (M.)** Skelett-fund von Chapelle-aux-Saints, Corrèze. (*Z. f. Ethnol.*, Berlin, 1908, XI, 981.) Brief note. See Capitan (L.).
- Brandisch (G.)** Die siebenbürgischen Melodien zur Ballade von der Nonne. (*Z. d. V. f. Volksk.*, Berlin, 1909, XIX, 194-197.) Cites from various parts of Transylvania the music of the "Ballad of the Nun." See also XVIII, 1908, 394.
- Breuil (H.)** Le gisement quaternaire d'Ofnet (Bavière) et sa sépulture mésolithique. (*L' Anthropologie*, Paris, 1909, XX, 207-214, 1 fg.) Treats of the interesting mesolithic burial place in the Ofnet grotto (Bavaria), investigated in the fall of 1908 by Dr R. R. Schmidt, who has summarized the results in the *Ber. d. Naturw. Ver. f. Schwaben u. Neuburg*, for 1908. The Abbé B. thinks the discoveries at Ofnet go further to prove "the Mediterranean origin of the Azil-Tardenoisians."
- et Cabré Agulla (J.)** Les peintures rupestres du bassin inférieure de l'Èbre. (*Ibid.*, 1-21, 9 figs.) Treats of the painted rocks of Calapatà at Cretas (Bas Aragon),—deer, cattle, goats, etc., in red and black; the frescos in open air of Cogul, province of Lerida, Catalonia (hunting scenes,—men, deer, bison, half-clad women dancing around naked man, etc.). The style of the animal frescos of Cogul and Calapatà is that of the French quaternary drawing and not more recent. The hunting-scenes of Cogul are the first of their kind. The dress of the women in the dance-scene suggests *roppochementini* with Crete. These rock-pictures differ altogether from the ceramic art of the ancient Iberians.
- Brewer (W.)** Etymology of Greek mythological terms. (Open Court, Chicago, 1908, XXII, 480-484.) The Egyptian etymologies of Psyche (Saach), Heracles (Heru-Akel), Prometheus (Pe-Rom-Theos), Phoebeus, Neptune, Hades, Demeter, Aphrodite, etc., represent a point of view in which the author should be alone. This sort of etymologizing belongs to a fossil period, unless a joke.
- Names of deity. (*Ibid.*, 1909, XXIII, 119-123.) Reply to article of C. A. Browne in a previous issue. The author maintains, with Herodotus, that "the divine names used by the Greeks were nearly all derived from those of the Egyptians."
- Broomall (H. L.)** Phonetic characteristics of the English verb. (*Proc. Delaware Co. Inst. Sci., Media, Pa.*, 1908-9, IV, 23-39.) Argues that "there must be something about final accent and sonancy that says 'verb' to the English linguistic sense," and that "there must be some analogy between the action of a verb in the sentence, as apprehended mentally, and these phonetic peculiarities."
- Vocal imitation of motion and mass. (*Ibid.*, 89-102.) Cites numerous English words to show that "at least part of their significance is due to association of their vocal sounds with motion or mass, as well as the sounds of the actions and objects named." These things are all forms of gesture.
- Brückner (A.)** Neuere Arbeiten zur slawischen Volkskunde. I. Polnisch und Böhmisch. (*Z. d. V. f. Volksk.*, Berlin, 1909, XIX, 208-219.) Brief reviews and critiques of recent (chiefly 1907-1908) literature on

Polish and Bohemian folk-lore, books, periodical articles, etc.

Bruhns (B.) Geographische Studien über die Waldhufensiedelungen in Sachsen. (Globus, Brnnschw., 1909, xcv, 197-220, 220-225, map.) Treats of the distribution, history, etc., of the colonies settled after the *Waldhufe* scheme in Saxony,—the immigration occurred notably in the 12-13th centuries.

Brunner (K.) Die Königliche Sammlung für deutsche Volkskunde auf der Internationalen Ausstellung für Volkskunst, Berlin 1909. (Z. d. V. f. Volksk., Berlin, 1909, xix, 281-286, 1 fig.) Describes the collection in the "Kammerwagen" at the International Folk-Art Exhibition, held in Berlin in January and February, 1909. This "folk-carriage," artistically decorated household furniture, articles of domestic manufacture, implements and instruments, ornaments, etc., are all illustrative of German folk-art.

— Ein Holzkalender aus Pfronten. (Ibid., 249-261, 7 figs.) Treats in detail of a wooden calendar (now in the Royal Collection for German Folk-Lore, Berlin), with the name of its first possessor, Georg Reychart von Pfronten, cut upon it,—probably from Pfronten in Bavaria. It consists of 7 narrow wooden tablets, constituting "a continuous Julian calendar," with indication of the fixed Christian festivals, etc., by means of German words, figures, symbols, and the like. This calendar cannot be earlier than 1690 (from internal evidence) and is probably not more than a century old.

— Bericht über die Neuauftellung der Königlichen Sammlung für deutsche Volkskunde in Berlin, Klosterstrasse 36, im Jahre 1907. (Ibid., 241-263.) Describes the new installation of Royal Folk-lore Collection in Berlin,—the N. E. German section in the Virchow room, the Spreewald room, Alsatian peasant room (with rich wood-carvings), Swiss room, Bavarian folk-costumes, old lower Bavarian and Austrian furniture, old Gothic furniture from Tirol, collections illustrating comparative art, folk-architecture, folk-costume and ornaments, pottery, Christmas crib,

votive offerings (including a boat-model), the Lüneburg room, etc.

Buchner (M.) Das Bogenschiessen der Aegineten. (Z. f. Ethnol., Berlin, 1908, xi, 845-856, 14 figs.) Discusses the archers (and the attitude, etc., in bow-shooting) in the Eginese group of the Salamis age, now in the Munich Glyptothek. The arrow-release seems halfway between the primary and the Mongolian of Morse. The stretching of the bow is compared with Turkish, Chinese, etc. The Chinese bow by way of the Scythian explains the Greek. The Scythians and the Tatars connect the West and the East.

Bulgaria, the peasant state. (Nat. Geogr. Mag., Wash., 1908, xix, 760-773, 5 figs., 8 pl.) Based chiefly on Bouchier, F. Moore and H. De Windt. The illustrations treat of peasant types, village scenes, funeral, *kolo* (national dance), etc.

Bullen (R. A.) Polished stone implements from Harlyn Bay. (Man, Lond., 1908, viii, 74-79, 2 figs.) Describes a stone amulet and a slate needle from a prehistoric (late Celtic) burial-ground. The material of the needle is foreign to the Trevose district.

Bünker (J. R.) Dorffluren und Bauernhäuser im Lungau (Herzogtum Salzburg). I. Teil. (Mitt. d. Anthropol. Ges. in Wien, 1909, xxxix, 66-86, 4 figs., 4 maps.) First section treating of village sites and peasant houses in Fanningberg, Höf, Stranach bei Pichl, Steindorf, etc.,—places partly of Slavonic, partly of German origin.

— Westungarische Vorhallenhäuser. (Stzgb. d. Anthropol. Ges. in Wien, 1907-1908, 3-8, 5 figs.) Treats of the West-Hungarian "Vorhallenhäuser," particularly in Mörbisch, Ödenburg, etc., out of which have arisen houses of the character of Meringer's "Mittelküchenflurhaus."

Busse (H.) Ein Hügelgrab bei Diensdorf am Scharmützelsee, Kreis Beeskow-Storkow. (Z. f. Ethnol., Berlin, 1909, xli, 690-697, 7 figs., map.) Treats of a mound grave on the shore of L. Scharmützel, in the Beeskow-Storkow district and contents (remains of 17 clay vessels, sparingly ornamented, evidences of non-

burial, etc.). These mound-graves are assigned to the period 14-12th century B. C., with indication of "Thracian" (Kossina) influence.

Das Gräberfeld auf dem Kesselberg bei Biesenthal, Kreis Ober-Barnim. (Ibid., 1908, XI, 826-830, 11 figs.) Brief account of the finds in 11 graves in a newly discovered burial-place,—investigations of 1907-1908. Although no metal grave-gifts were found, the cemetery seems to belong to the bronze age, with cremation-urns.

Cantacuzène (G.) Contribution à la craniologie des Etrusques. (L'Anthropologie, Paris, 1909, XX, 329-352, 12 figs.) Gives results of study of 16 crania (10 male, 6 female) from the necropolis of Corneto-Tarquiniæ, on the border of ancient Etruria, near Cività-Vecchia, now in the Paris Museum of Natural History. The average cranial capacity is for males 1635, females 1470; cephalic index 78.69 and 76.40. The Etruscans do not seem to have possessed an ethnic unity, but present a decided Roman element.

Capitan (L.), Breuil (H.), Bourrinet (P.) et Peyrony (D.) Observations sur un bâton de commandement orné de figures animales et de personnages semi-humains. (R. de l'Éc. d'Anthrop., de Paris, 1909, XIX, 62-76, 1 pl., 12 figs.) Treats of the remarkable bâton de commandement discovered by M. Bourrinet at the Mège "shelter" at Teyjat (Dordogne) in August, 1908. This piece of deer-horn contains sculptures of a deer-head, three serpents, a large horse and part of small one, three swans more or less complete, three small semi-human figures (horned, long-eared, hairy-bodied, two-legged), which C. terms *diabolins* provisionally. They are possibly "imaginary objects, e. g., *Loups-garoux*, or the like"; or possibly "masks" (the horn seems to be that of the chamois).—the author cites in comparison Bushman paintings, Melanesian masks, Eskimo shamanic carvings, etc.

— Le squelette humain moustérien de la Chapelle-aux-Saints Corrèze. *L'homo heidelbergensis*. (Ibid., 1908, 3 figs.) Résumés briefly the articles of Boule, Bouyssonie and Bar-

don in *L'Anthropologie* (1908) on the human skeleton of the Mousterian age discovered in August, 1908, at the little cavern of La Chapelle-aux-Saints,—of Neanderthal-Spy type, normal during this period over a considerable part of Europe. Also résumés the data in O. Schoetensack's *Der Unterkiefer des Homo Heidelbergensis* (Leipzig, 1908) concerning the human jaw from the Mauer quarry, which is thought to represent "man at a point close to the separation of the Hominidæ and the anthropoids." The name "Heidelberg man" has been assigned to this man belonging to the close of the Pliocene or to the beginning of the Quaternary.

Cardoso (F.) O Povoiro: estudo anthropologico dos pescadores do Povoia de Varzim. (Portugalia, Porto, 1908, II, 517-539, 27 figs.) Anthropological study, giving average measurements (head, stature) of 150 males and 65 females, of the *Povoiros* or fishermen of the region of Povoia de Varzim, Portugal. The cephalic index varies in men from 70 to 83.4, with an average of 77.5; in women from 72 to 83.9, average 77.5. The average stature for men is 1,648 mm., women 1,547 mm. This people represents the fusion of two neolithic types (dolichocephalic and brachycephalic) with later admixture of Semitic and Nordic.

Carey (E. H.) The fifth of November and Guy Fawkes. (Folk-Lore, Lond., 1908, XIX, 104-105, 1 pl.) Notes on celebration in Guernsey in 1903,—the ceremony has recently been abolished by the Royal Court.

Carter (J.) Kutchuk Ayiah Sofia and San Vitale. (Rec. of Past, Wash., 1909, VIII, 179-183, 3 figs.) Compares the "Little Sophia" (Church of SS. Sergius and Bacchus) in Constantinople with the Church of San Vitale in Ravenna, and concludes that the latter is "an improved edition" of the former.

Claassen (W.) Die abnehmende Kriegstüchtigkeit im Deutschen Reich in Stadt und Land von 1902 bis 1907. (A. f. Raassen- u. Ges.-Biol., Lpzg., 1909, VI, 73-77.) Cites statistics to show the continued regression of the population of Germany in

military effectiveness as judged from physique, both urban and rural.

Classen (K.) Über den Zusammenhang der vorgeschichtlichen Bevölkerung Griechenlands und Italiens. (Korr.-Bl. d. D. Ges. f. Anthrop., Brunschwig, 1909, xi, 37-38.) Compares the Rhaetian place-names with the Etruscan, and the pre-Grecian with those of Asia Minor, and these with each other. According to C. relations between prehistoric Italy, Greece and Asia are indicated, with probably linguistic connections of ancient tongues of the Rhaetian country (also Etruscan, Ligurian, etc.) and the speech of the Caucasian peoples, especially Georgian, as Dirr and Wirth have maintained. But much of this is too speculative.

Clinch (G.) Suggestions for a scheme of classification of the megalithic and analogous prehistoric remains of Great Britain and Ireland. (Ann. Arch. and Anthrop., Liverpool, 1909, ii, 46-48, 2 pl.) Classifies thus: Dwellings (caves, rock-shelters, stone and earth hut-circles, bee-hive dwellings, crannoges, lake and marsh dwellings, souterrains); monoliths (rude and worked); groups of monoliths; trilithons; alignments; avenues (open and covered); enclosures (circular and rectangular); sepulchral structures (cromlechs, cists in barrows, cists not in barrows, cairns, long, chambered and round barrows); earthworks connected with megalithic remains (such as Stonehenge, Avebury, etc.); sculpturings (cup and ring markings on natural stones and rocks and on sepulchral structures, holed stones); hill-side structures (such as the White Horse); stones or rocks of natural origin and forms associated with folk-lore; remarkable natural features attributed to supernatural origin (such as the Devil's Punch Bowl, etc.).

Corso (R.) Gli sponsali popolari. Studio d'etnologia popolare. (R. d. Ét. Ethnogr. et Sociol., Paris, 1908, i, 487-499.) Well-documented study of betrothals, etc., in folk-custom in various parts of Europe, particularly in Italy, their status in legislation, etc. The chief ceremonies (*libellum dotis*, *per solidum et denarium*, "*scapellata*," *fustis*, "*seg-*

nata," *dextrarum junctio*, *anulus fidelis*, *calciamenta*, *donarium*, *osculum*, *potus et biberagium*, *consensio thalami*) are discussed.

Cox (E. G.) King Lear in Celtic tradition. (Mod. Lang. Notes, Baltimore, 1909, xxiv, 1-6.) Treats of the Ossianic ballad *Dan Liuir* (English version) (pp. 1-2) and other Celtic lore concerning *Lir*, a "sea-god reduced to a petty kinglet," of the *Tuatha de Danann*,—Shakespeare's *Lear*.

Crooke (W.) Some notes on Homeric folk-lore. (Folk-Lore, Lond., 1908, xix, 52-77, 153-189.) Treats of origin of Homeric poems (*Iliad*, with certain later additions, is probably work of a single hand, *Odyssey* by different and later writer), and the evidence as to unity, etc., of the epics "dependent on the provenience of the sagas, *Märchen* and folk-lore incidents which appear in the poems." Reticence of the poet in dealing with folk-tradition, careful selection of certain legends for treatment and discarding of others, animism (hard to distinguish between metaphor and real belief), no stratification of the more primitive beliefs in the *Iliad* (also magic, etc.),—this may point to the poems being the work of a single age, if not of a single author; theory not correct that *Iliad* consists of *Sagas* and *Odyssey* of *Märchen*. The analogies and sources of the legends and tales, *motifs*, etc., of the poems, are discussed in detail. C. considers Homer "the first of European folklorists," and "the first and noblest writer who has devoted his genius to the record of beliefs and traditions which it is the task of this Society to collect and interpret."

Cunnington (Mrs M. E.) Notes on excavations at Oliver's Camp near Devizes, Wilts. (Man, Lond., 1908, viii, 7-13, 3 figs.) Gives results of excavations in summer of 1907. The few remains discovered (fragments of iron and one of bronze, broken pot and 100 potsberds, etc.) fix the camp as late-Celtic, later than the bronze age but pre-Roman. Hearth-site beneath the center of the camp seems earlier than the camp itself.

— Notes on a late Celtic rubbish-heap near Oare, Wiltshire. (*Ibid.*,

- 1909, ix, 18-21, 6 figs.) Treats of the pottery found (most of it is of the bowl with bead rim type, purely British and characteristic of late Celtic; the round-bottomed bowls are suggestive of metal prototypes; fragments of various foreign makes: Belgic black, green glazed Roman, thin white cream-colored possibly from Rheims, "roulette" ornamented, painted red, fine red Arretine, etc.) in this rubbish heap of the first century A. D. A fibula of bronze and another of iron, besides other bronze and iron objects, pottery discs, etc., were likewise found.
- On a remarkable feature in the entrenchments of Knap Hill Camp, Wilts. (Ibid., 40-52, 1 fig.) Treats of the 6 openings or gaps through the ramparts, which actually form part of the original structure of the camp. These may have been "sally-ports."
- Carlbuss (G.)** Die geographische Physiognomik in der Namenkunde. (Mitt. d. K.-K. Geogr. Ges. in Wien, 1908, li, 463-470.) Treats of the place-names of the Hungarian Carpathian region. A number of the mountain, lake and river names of Transylvania are of Gothic and Celtic origin, others Slavonic. These names are often in close relation with the physical character of the country.
- Dalzell (J. B.)** Dalzell: an ancient Scottish surname. (Scott. Hist. Rev., Glasgow, 1909, vii, 69-72.) Gives origin of Dalzell (Gaelic *Dal gear*, "white holm," or "beautiful meadow") and cites 220 different ways in which it is spelt, from *Dalcall* to *Thial*.
- Davies (J. C.)** Ghost-raising in Wales. (Folk-Lore, Lond., 1908, xix, 327-331.) Gives English text of "How to obtain the familiar of the genius or good spirit and cause him to appear," from the library of "Harries Cwrt-y-Cadno," a most popular Welsh conjuror who lived in Carmarthenshire about two generations ago; and also of "The farmer who consulted the conjuror, or the familiar spirits and the lost cows," a story of this Welsh wizard's spirit-summoning.
- Delaire (F.)** Sur un crâne négroïde trouvé au carrefour de Revelon près d'Épéhy, Somme. (Bull. Soc. d'Anthrop. de Paris, 1909, v^e s., x, 13-18.) Describes, with measurements, a female dolichocephalic (index 73.33, cranial capacity 1,370 c.c.) of negroid aspect (prognathism especially), found *circa* 1865 in the Gallo-Roman ruins of Revelon.
- Deniker (J.)** La taille en Europe. (Ibid., 1908, v^e s., ix, 456-462.) Résumés faits in author's *Les races de l'Europe*. II. La taille en Europe (Paris, 1908, pp. 144).
- A propos d'un squelette néanderthaloïde du quaternaire. (Ibid., 736-738.) Discusses the skeleton found by Hauser of Bâle in the cave of Moustier in the Vézère valley,—the *Homo Moustieriensis* Hauseri of Klaatsch, a Neanderthaloid skeleton found in 1905 in a Moustier rock-shelter, and the Bouyssonie-Bardon discovery in the Dordogne valley of a Neanderthaloid skull and other bones. This makes 3 such skeletons discovered in France.
- Depéret (C.) et Jarricot (J.)** Le crâne préhistorique de Saint-Paul de Fenouillet. (Ibid., 543-561, 1 fig.) Describes, with measurements, the fragmentary skull of an adult male found in 1851 in a bone-cave of prehistoric age at Saint-Paul de Fenouillet, in the department of the Eastern-Pyrenees.
- Dettling (A.)** Die Festfeier der Translation des hl. Justus in Ingebohl 1697. (Arch. suisses d. Trad., Bâle, 1909, iii, 127-136.) Reprints from a Ms. copy the play enacted on the occasion of the translation of St. Justus to Ingebohl.
- Dewert (J.)** La fête des rois (Bull. de Folk-lore, Bruxelles, 1909, iii, 129-172, 1 pl.). Detailed account of Holy Night, or the festival of the three Kings, as celebrated in Belgium (name of festival, names of Kings, date, participants, candles, bonfires, discharge of fire-arms, processions, songs, feast, bean-cake, letters, amusements, "lost Monday," superstitions, etc.). The texts of many songs, couplets, etc., are given. In Hainaut the celebration is a family affair *par excellence*. A sort of mystery play survives in places.
- Dickson (J. A.)** The bury-man. (Folk-Lore, Lond., 1908, xix, 379-387, 2 pl.) Treats of the ceremony

of the *burry-man* (a boy dressed in a tight-fitting suit of white flannel covered entirely with burrs stuck on, and adorned with flowers, ribbons, etc.) in connection with the annual fair held at South Queensberry (below the Forth bridge) on the second Friday of August. Miss D. suggests that this ceremony is "a relic of an early propitiatory harvest rite."

Diehl (D.) Amtliche Berichte über die Kirchweihfeiern in der Obergrafenschaft aus den Jahren 1737-1740. (Hess. Bl. f. Volksk., Lpzg., 1909, VIII, 100-111.) Cites from official records during the years 1737-1740 13 accounts and descriptions of church-festivals in various parts (Lichtenberg, Darmstadt, Arheilgen, Pfungstadt, Braubach, Jägersburg, Rüsselsheim, Seeheim, Langen, Zwingenberg, Auerbach, Hähnseln, Alsbach) of the Obergrafenschaft. These records speak of the evil and scandalous concomitants and consequences of some of these festivals.

von Diest (H.) Ausflug in das Höhlengebiet von Ojców, Südpolen. (Z. f. Ethnol., Berlin, 1909, XII, 745-751, 3 figs., map.) Account of excursion in August, 1909 to the cave region of Ojców in southern Poland,—some 80 caves have already been found, and more are being discovered. The finds in these caves include animal bones, teeth of cave-bears, etc., flints of Moustier and Magdalenian types, pottery fragments, ivory objects, human skulls, etc. In the Maszycka cave were found ivory sticks with ornamentation. R. Virchow thought the two skulls from this cave Slavonic.

Dirr (A.) Über die Klassen (Geschlechter) in den kaukasischen Sprachen. (Int. Arch. f. Ethnogr., Leiden, 1908, XVIII, 125-131.) Treats of "classes" or "genders" in the languages of the Caucasus,—they number from 6 (male rational beings, female rational beings; many animals without distinction of natural sex, certain other substantives; certain animals without distinction of sex; all not belonging to the other classes) in Chechen to 2 in Tabasaran (rational beings; all others). A progressive simplification has taken place. Several tongues (Ude, Agbu-

lian, Kürinian) have lost their genders by reason of the influence of the genderless Turko-Tatar language. According to D. the oldest classification of living beings is seen in Artchinian. Social organizations like those of the native Australians may have existed in remote times among the peoples of the Caucasus and influenced the classification in languages. The oldest classification in the languages of the Caucasus ranked highest the sexually mature being that has reproduced itself; next to this came the sexually mature not yet reproduced.

— Die alte Religion der Tschetschenen. (Anthropos, Wien, 1908, III, 720-740, 1050-1076.) Translated from an article by Baschir Dalgat, a Chechen, in the *Terskij Sbornik* for 1893. Treats of the other world (2 brief legends; ideas as to its situation, above or beneath the earth); burial and funeral rites; soul-lore (legends); witch craft; demon-lore (*jinnas*, etc.); the hearth (sacred, hearth-fire at weddings, fire in blood-revenge); oaths; protective deities (their shrines, cult, etc.); priests and fortune-tellers, "wise women"; nature-gods ("water-mother," wood-*almas*, "mother of storms"); star-cult (sun-worship; *seli*, the thunderer); the supreme being *Dele*, the creator, etc. The Chechens, now Mohammedans, were formerly Christians and much influenced by the Georgians. Christianity was retained longest by the Ingushes.

von Domaszewski (A.) Die Triumphstrasse auf dem Marsfelde. (A. f. Religsw., Lpzg., 1909, XII, 67-82, 1 pl.) Treats of the course, etc., of the *via triumphalis* across the *Campus Martius* from the *Porta Triumphalis* to the *Porta Carmentalis*.

Dubreuil-Chambardel (L.) A propos des croix blanches des fermes. (Bull. Soc. d'Anthrop. de Paris, 1909, v^e s., IX, 678-680.) Treats of the "white cross" on walls of farms, stables, etc., in Touraine, and cites from an abbey (Villedoin) record of the end of the 18th century the text of a conjuring formula, explaining such use of the Latin cross against cattle-witching, etc. M. Huguet suggests that the

round elements at the extremities of the crosses may be the epiphyseæ of bones,—bones being used primitively in such cases.

Duckworth (W. L. H.) Report on a human cranium from a stone cist in the Isle of Man. (*Man*, Lond., 1908, viii, 5-7, 6 figs.) Describes brachycephalic (81.1) skull with persistent frontal suture, and compares it with one from a dolmen at Blankenese near Lübeck and with another from a stone-lined grave at Cronk-y-Kecillane, Isle of Man. The skull is probably Celtic.

— Note on Mr Klintberg's studies upon the folk-lore and dialects of Gothland. (*Ibid.*, 43-44.) Mr Klintberg's Ms. consists of "some 25,000 neatly written sheets, carefully scheduled and pigeon-holed." He has besides some 200 photographs and several thousand pencil drawings (of tools, implements, etc.) intended as illustrations to the dictionary. Dr D. visited Mr K. in September, 1906.

von Duhn (F.) Der Sarkophag aus Hagia Triada. (*A. f. Relig. u. Lpzg.*, 1909, xii, 161-185, 3 pl.) Discusses the Hagia Triada sarcophagus, a very important monument of the ancient Cretan cult of the dead (the sacrificial-scenes, libations, offerings, etc., painted upon it), belonging to the later Mycenaean period, perhaps the second half of the 15th century B. C. v. D. compares the recent description of Paribeni with the results of his own observations of the sarcophagus.

Dumas (U.) La Grotte des Fées à Tharaux, Gard. (*R. de l'Éc. d'Anthrop.*, de Paris, 1908, xviii, 308-326, 9 figs.) Treats of the Grotte des Fées (a cave inhabited probably during most of the neolithic period, but representing in the objects discovered chiefly the transitional period from stone to metal and also the first metal age in part), the finds of stone (numerous retouched flints, polished axes, disks, pounders, etc.), bone (many punches, etc.; some used perhaps to ornament pottery), horn, shell, metal (a needle, a piercer, and a dagger blade of bronze or copper), pottery (fragments of 250 vessels, many ornamented and often of fine type), etc. Three graves and traces

of another were also found, with numerous grave-gifts. The nature of some of the objects found indicates prehistoric commerce and relations between this part of France and Hungary (e. g., the vase-supports). In one of the graves was discovered a flint dagger-blade that must have come from Grand-Pressigny.

— Fouilles d'un nouveau tumulus au quartier de Tarde, commune de Baron, Garde, Époque hallstattien (*Ibid.*, 1909, xix, 101-102). Describes briefly finds (funeral urn, pierced at bottom like a modern flower-pot, with fragments of skull and humerus; a fire-reddened pebble, 2 iron nails; a smaller urn, etc.) of tumulus of Hallstatt epoch.

Durham (M. E.) Some Montenegrin manners and customs. (*J. R. Anthropol. Inst.*, 1909, xxxix, 85-96, 1 pl.) Gives the plot of the ballad of "The Avenging of Batrik Perovich, notes on *vilas*, the *pleme* and *bratstvo* (family-group), marriage taboos, relationships, relationship terms (list of 43 at p. 90), funeral, head hunting, etc. Childbirth, medicine and "wise women," native surgeons, etc., are touched upon.

Dutt (W. A.) New paleolithic site in the Waveney valley. (*Man*, Lond., 1908, viii, 41-42, 1 fig.) Describes "a small and well-worked pointed paleolith," found in a gravel pit on the common at Bungay, a town almost encircled by the river Waveney, in 1907.

Ebert (M.) Die frühmittelalterlichen Spangenhelme vom Baldenheimer Typus. (*Z. f. Ethnol.*, Berlin, 1909, xli, 306-307, 1 fig.) Notes on the early medieval buckle helmets of the Baldenheim type. These Germanic buckle helmets of the migration period were made in Greek workshops on the Pontus. This type of helmet has been found in Dalmatia, Italy, Upper Germany, Eastern France, etc., in the southern folk-migration region.

Eichhorn (G.) Der Grabfund zu Dienstädt bei Remda, Grossh. Sachsen-Weimar. (*Ibid.*, 1908, xi, 902-914, 22 figs.) Gives account of finds made in 1837 in a skeleton-grave at Dienstädt—they are now in the Museum of the University of Jena: Silver-wire necklace, silver fibulae,

chain of amber (and a few glass) beads, two silver-wire bracelets, a bronze pail, a bronze dish with three ring-handles, a broken bone needle, a silver needle, an iron knife, an S-formed ornament of silver-wire with spiral coils, several other objects and ornaments of silver wire, etc. The age of the grave is the late Roman provincial period about 200-300 A. D.

Emerson (A.) A Wedgewood vase. (*Rec. of Past. Wash.*, D. C., 1909, VIII, 207-210, 1 fg.) Describes a vase of the Campagna or Borghese form, now in possession of the Art Institute of Chicago, as gift from James Viles, Esq.

F. (H. O.) A human fossil from the Dordogne valley. (*Nature*, Lond., 1909, LXXIX, 312-313, 2 figs.) Résumés the accounts by M. Marcellin Boule and MM. A. and J. Bouyssonie and L. Bardon, in the *Comptes Rendus de l'Académie des Sciences* (cXLVII, 1908) of the "fossil man," a Mousterian skeleton, found on August 3, 1908, in a cave on a small tributary of the Dordogne, in the Corrèze. The dolichocephalous (75) skull resembles (with certain exaggerations) the Neanderthal-Spy type, normal probably in certain parts of Europe in the Middle Pleistocene. The man of Chapelle-aux-Saints may be compared with the "humans" in the carvings of Lascaux, etc.

F. (W.) Boris-Gleb. (*Globus*, Brnschw., 1908, xciii, 257.) Résumés from the *Christiana Morgenbladet* an account of the northernmost settlement in Norway and the adjoining Russian church of Boris-Gleb on the west bank of the Pasvik river. The inhabitants are a few Russian Lapps.

Favraud (A.) La Grotte du Roc, Commune de Sere, Charente, avec superposition du Solutréen sur l'Aurignacien. (*R. de l'Éc. d'Anthrop.*, de Paris, 1908, xviii, 407-423, 7 figs.) Treats of the Grotte du Roc and the human and other remains there discovered: Situation and stratigraphy, fauna (rather varied, all in Aurignacian stratum); stone implements (retouched flints, borers, scrapers, microlithic implements, flints of divers sorts); fragments of iron and lead ore; implements of

bone, horn, ivory, etc., from the Aurignacian stratum (daggers, arrow and spear points, piercing implements, bone-cases, fragment of bâton). From the Solutrean stratum lying immediately over the Aurignacian, few objects were taken. The pre-Solutrean age of the Aurignacian seems demonstrated here.

Fawcett (E.) Patrick Cotter—the Bristol giant. (*J. R. Anthropol. Inst.*, Lond., 1909, xxxix, 196-208, 1 pl.) Treats of the professional career, relics, osseous remains, etc., of Patrick Cotter (d. 1806). The measurements of the bones indicate that the giant could not have been more than 7 ft. 10 in. in height. The cephalic index of the skull is 76.2. Cotter probably suffered from acromegaly.

Feast (The) of St. Wilfrid. (*Folk-Lore*, Lond., 1908, xix, 464-466, 1 pl.) Describes procession and races of 60 years ago at Ripon.

Fischer (E.) Die Herkunft der Rumänen nach ihrer Sprache beurteilt. (*Korr.-Bl. d. D. Ges. f. Anthrop.*, Brnschw., 1909, xi, 1-6.) According to Dr F. there are two Rumanian languages, "the old Wallachian folk-speech used by ca. 5½ million peasants, villagers, etc.," and "the new Rumanian 'boulevard language,' used by about a million dwellers in cities and towns." Of these the former is the one of value for tracing the ancestry of the people. The Slavonic influence (morphology and grammar, vocabulary, etc.) is discussed, and the important contribution (near 4,000 words in the folk-speech) of Latin noted. Certain differences (parts of body, most domestic animals, male sexual organs Latin; diseases, fishes, female sexual organs Slavonic) are pointed out. The conclusion reached is that the ancestors of the Rumanians were Thracian-romanian pastoral people of the mountains who migrated into the plains of the lower Danube already occupied by the Slavs.—the men took Slav wives, and this influence is very noticeable in modern speech.

—Paparudă und Scalioian. (*Globus*, Brnschw., 1908, xciii, 13-16, 1 fg.) Treats of the Rumanian folk-custom of the procession of the

- rain-making Paparudā (= Servian Dodola), in which figure naked gypsy girls with elder branches about neck and middle,—rain-songs are sung, etc. Also of the Scaloian or personification of drought (clay figure adorned with leaves and laid in a wooden coffin),—here there is a funeral procession. These customs betray the child-like religious soul of the folk and likewise indicate South Slavonic influence.
- *Mir und Zadruga bei den Rumanen*, (Ibid., 252-256.) Discusses the origin of the Rumanians or Vlachs.—Dr F. considers them to have sprung from a mixture of Thraco-Romans and Slavs,—particularly with reference to social organization and possession of the *mir* and the *zadruga* (familia),—common "Indogerman" institutions. The views of B. N. Jorga and E. Rosetti are treated with some detail. Many things attributed to the "Romans" are to be derived rather directly from the Thracians and the South Slavs. See also F.'s book on *Die Herkunft der Rumanen* (Bamberg, 1904).
- Forrer (R.)** *Analysen keltischer Münzen*. (Z. f. Ethnol., Berlin, 1909, xii, 458-462.) Gives results of chemical analyses of 16 Celtic coins (from France, Switzerland, Hungary, etc.) made by Dr C. Virchow and colleagues at Charlottenburg. The amount of copper varies from 34.29 to 83.30; tin hardly a trace to 18.72; antimony none to 0.88; lead none to 24.88; silver none to 96.64; zinc none to 16.46; nickel none to 0.41; iron 0.03 to 1.72. The north Gaulish potins show a high quantity of antimony, the Hungarian (Szegszard) silver potin a strong admixture of lead, the Treves bronze coin a strong amount of zinc (due to Roman influence).
- Fortes (J.)** *Vasos em forma de chapéu invertido*. (Portugalia, Porto, 1908, ii, 662-665, 6 figs.) Brief account of vases in the form of an inverted hat found at Villa do Conde some five years ago. Similar vessels have been found at Terroso, Gulpilhares (Gaya), etc.—the necropolis of Gulpilhares dates from the fourth century A. D.
- *Machados avulsos da idade do bronze*. (Ibid., 662, 2 figs.) Note on two bronze axes now in the Porto City Museum, from Famíliação and Barcellos, both double-furrowed with a single lateral ring.
- *Esconderijo Morgearno de Ganfel*. (Ibid., 661.) Note on 15 (24 were found together) bronze axes from Ganfel, in the district of Valença, all double-handled and double-grooved.
- *Ouros protohistoricos da Estella, Povoa de Varzim*. (Ibid., 665-618, 1 pl., 16 figs.) Treats of objects of gold (necklaces, earrings, beads), ornamented pottery, etc., belonging to the second period of the iron age.
- François (A.)** *Les caractères distinctifs du français moderne*, (Univ. de Genève, Rapp. du Recteur, 1908, 3-23.) Sketches briefly the chief distinctive characteristics of modern French as compared with Latin, etc., and its history of individuality, literary and social expansion, etc.
- Freire-Marreco (B.)** Notes on the hair and eye color of 391 children of school age in Surrey. (Man, Lond., 1909, ix, 99-108, 3 figs.) Gives details of statistics in 7 parishes, concerning 351 boys and 240 girls from 3 to 14 years of age. Beddoe's nigrescence-index and index for eye-color, and Collignon's index of excess of dark over light are considered. Comparison of surnames is also made. Medium eyes (65%) and fair hair (47.9%) predominate; dark eyes with 21%, and brown hair, with 36.9%, come next; the lowest percentages are dark hair (12.85%), light eyes (15.7%), and red hair 2.4%). Girls seem to be slightly darker than boys.
- de Freitas (E.)** *Subsidios para o inventario archeologico do concelho de Feigueiras*. (Portugalia, Porto, 1908, ii, 665-666, 1 fig.) Notes on rock inscriptions in Roman letters in the valley of the Ave, and some clay tubes from Penacova, probably water-pipes.
- Frey (S.)** *Deities and their names*. (Open Court, Chicago, 1909, xxiii, 314-316.) Treats of some very doubtful analogies and identities in Greek, Hebrew, Egyptian, etc. See Brewer (W.), Kampmeier (A.).
- Frizzi (E.)** *Ein Beitrag zur Anthro-*

- pologie des "Homo alpinus Tirolensis." (Mitt. d. Anthrop. Ges. in Wien, 1909, XXXIX, 1-65, 3 pl., 22 figs.) After historical introduction, gives details of measurements and observations of 1122 crania from various parts of the Tirol, in comparison with the results of other investigators (Tappeiner, Strauch, Wettstein, Pittard, Ranke) for the Tirol, Val-lais, Disentis-type, etc. Also measurements and observations of 80 Tirolese men averaging 35 years of age, and of the long bones of some 45 skeletons from the St. Sisinus cemetery in Laus. The average cephalic index of the 1122 skulls is 84.2, of the 80 living individuals 85.5. According to F., if there exists a *Homo alpinus* there must exist also a *Homo alpinus Tirolensis*. The area of *Homo a.* is very extensive and many very different peoples have contributed to its formation.
- Gabbud (M.) La vie alpicole des Bag-nards. (Arch. suisses d. Trad. Pop., Bâle, 1909, XIII, 46-63, 105-126.) Treats in detail of the Alp life of the people of the Bagnes valley: sheep and goats, cattle in the *Meyens* set out thither in May-June), summer in the mountains (pasturing, food, work, division of labor, wages, etc.), milk industry, etc. See Zahler (H.)
- Météorologie populaire. (Ibid., 199-203.) Cites 41 weather prognostics and agricultural sayings.
- Geiser (K. G.) Peasant life in the Black Forest. (Nat. Geogr. Mag., Wash., 1908, XIX, 635-649, 9 figs., 2 pl.) The illustrations treat of houses, family and domestic life, the celebration at Mitteltal, etc.
- Gengler (J.) Fränkische Vogelgeschichten. (Globus, Braunschwg., 1908, XCIII, 69-71.) Cites Franconian folk-tales concerning the shrike and its spitting its prey on thorns; the cuckoo and its eating the eggs of other birds to get its throat ready for singing, its metamorphosis into a sparrow-hawk, etc.; the bittern and its eating hairs from the heads of sleeping men; the blackbird and the cause of its color; the thistle-finch (its variegated colors come from the fact that it was the last to be painted by God, when only remnants of all colors were left);

the "silk-tail," a bird of ill-omen; the quail (a prophet of good or bad harvest); the owl, etc.

- von Geramb (V. R.) Der gegenwärtige Stand der Hausforschung in den Ostalpen; mit besonderer Berücksichtigung der Grundrissformen. (Mitt. d. Anthrop. Ges. in Wien, 1908, XXXVIII, 98-135, figs.) Résumés the results of investigations (Bancalari, Lüttsch, Haberlandt, Murko, Meringer, Bünker, Henning, Meitzen, Reishauer, Hohenbruck, Eigl, Dachler, etc.) of the house of the eastern Alps, with special reference to basal forms. Of the "Küchenstubenhaus" four forms are recognized. Other types are the one-roomed herdsman's house, the "Rauchstubenhaus," and the atypical Italian house of the southern Tirol.

- Gerbing (L.) Eine Volkskunstausstellung im Dermbach. Feldbahn. (Z. d. Ver. f. Volksk., Berlin, 1909, XIX, 436-438.) Notes on the exhibition of hand-embroidery (illustrating the local development of this art in the last 250 years) held at Dermbach in April, 1909.

Die Thüringer Volkstrachten. (Ibid., 1908, XVIII, 413-425, 4 figs.) Treats of folk-costume of men and women in Thuringia past and present. The most interesting are: the carrier's frock (going back to the "shirt-coat" of the 4th century A. D.), the "dance-shirt," mantles of three sorts (one "Spanish,"—the "Bretchenmantel," is a real folk-garment), the "church cap." The dress of the North Thuringian peasants has been long influenced by city fashions. In Eichsfeld the "Schnürmütze" is still to be seen: throughout central Thuringia the ornamental "Weimar cap" prevailed. The costumes of the Thuringian forest are simpler but more tasteful than those of the rich "Land." On the north side of the Rennsteig is found black-white supper-dress of women; the beautiful girls of Ruhla have their special bridal dress. Interesting also are the "Kirmseheid" (not forgotten), the "Stirnkappe," the "Brautheid," etc. On the south side of the Rennsteig many variations are met with. The Brotterode costume was peculiar,—the fire of

1894 destroyed all that remained of it (there is, however, a doll dressed in the old way in the museum at Erfurt). The Hessen-Henneberg country has its own costume. In Altenburg are found the least beautiful of Thuringian folk-costumes.

Gessmann (G. W.) Ein Ausflug nach den Plitvicer Seen in Kroatien. (Mitt. d. K.-K. Geogr. Ges. in Wien, 1908, 23, 477-488, 4 pl.) Account of visit to the Plitvic lakes in Croatia. References to Roman remains in Ober-Primisjle, the Frankopan ruins at Slunj, the "dug-out" canoes of Lake Kozjak, etc.

Giuffrida-Ruggieri (V.) Nuovo materiale paleolitico dell'isola di Capri a facies neolitica. (A. d. Soc. Rom. di Antrop., 1908, xiv, Repr., 2 pl.) Treats of paleolithic specimens found by Dr I. Cerio during the new excavations for the Quisisan inn, and dating from a period anterior to the Phlegrean eruptions. These paleolithic implements with neolithic facies are probably not contemporaneous with the fossil animal remains found with them. Some of them resemble closely the Vedda flints recently described by the Sarazins.

Gjorgjević (T. R.) Von den Zigeunern in Serbien. (J. Gypsy Lore Soc., Liverpool, 1908, x, 2, 1, 219-227.) Notes on the number, language, beliefs, mode of life, occupations, social divisions, name, etc., of the Gypsies in Serbia. German translation by Dr F. S. Krauss, from the Serbian MSS. of the author. In 1900 there were 46,148 Gypsies (1.85% of total population), of whom 27,846 spoke as their mother-tongue Servian, 13,412 Gypsy, 4,700 Rumanian, and 181 Turkish. Officially there are 34,459 Gypsies belonging to the Greek (orthodox) Church and 11,689 Mohammedans. Their common name is Cigani.

Goessler (Dr) Neues von der Ringwallforschung in Württemberg. (Korr.-Bl. d. D. Ges. f. Anthrop., Brnschw., 1908, xxxix, 130-132.) Notes on recent investigations of the Heidengraben "Ringwall" (evidences of fortification, Gallic "town" and settlement of later La Tène period): Ipf and Bürgen near Boffingen and Heidenheim (Hallstatt finds),

Henneburg (bronze age), Lemberg (Hallstatt and La Tène), etc. That all the fortifications of the region are not Celtic is evident.

Gomme (A. B.) Folk-lore scraps from several localities. (Folk-Lore, Lond., 1909, xx, 72-83.) Items from Durham county (bells, medicine, good and bad luck, sayings, times of year, folk-tales, rhymes), Yorkshire, Cambridge, Marlborough district of Wilts., etc.

Gore (J. H.) Holland as seen from a Dutch window. (Nat. Geogr. Mag., Wash., 1908, xix, 619-634, 1 fr., 2 pl.) Contains notes on tobacco-smoking, national character, fishing, cities on piles, houses, family and domestic life, children, etc.

Gore (L.) In beautiful Dalecarlia. (Ibid., 1909, xx, 464-477, 3 figs., 7 pl.) Notes on Sunday services, dress and ornament, farm industries (flax, lace), houses, drinks, lumbering, etc., among Swedes of Dalarna.

Gorjanovic-Kramberger (K.) Anomalien und pathologische Erscheinungen am Skelett des Urmenschen aus Krapina. (Korr.-Bl. d. D. Ges. f. Anthrop., Brnschw., 1908, xxxix, 108-112, 8 figs.) Treats of anomalies (molars with prismatic root, especially those with root-cover; the number of the Foramina mentalia; the abnormal position of a tooth in the Krapina-H lower jaw) and pathological phenomena (small hole caused by blow or stab, wound of supraorbital ridge, deformation of ulna, broken clavicle, defects of teeth, some disease-effects of Arthritis deformans, etc.), in the bones of the prehistoric man of Krapina. Residence in caves, the struggle for existence against men and animals, character, etc., of food have had their influence.

— Neolithische Hügelgräber bei Poserna, Kreis Weissenfels. (Ibid., 120-124, 2 figs.) Describes two hill-graves excavated in 1900 and 1904, containing skeletons with grave-gifts (amphora, flint knife and scraper; small vessel, bronze or copper spirals). Both graves are neolithic. A detailed account will appear in the *Prähistorische Zeitschrift*.

Gütze (A.) Bretchenweberei im Altertum. (Z. f. Ethnol., Berlin, 1908,

- XL, 481-500, 14 figs.) *Résumés* data concerning "board-weaving" in the later stone age (Swiss lake-dwellings), bronze age (woman's belt from Borum Eshøj, in Copenhagen Museum), Roman imperial age (several objects), Viking period (weaving apparatus from Tønsberg ship), East Baltic region (cemetery of Andula 3d-6th cent. A. D.). The finds of Andula (implements, types of apparatus; their use as grave-gifts, their geographical distribution, etc.) are treated with some detail. The data push back the age of "board-weaving" in northern Europe to a period corresponding to the neolithic lake-dwellings and suggest an independent, autochthonous development.
- Grendon** (F.) *The Anglo-Saxon charms*. (J. Amer. Folk-Lore, Boston, 1909, XXII, 105-237.)
- Grosse** (H.) *Brandgruben bei Dabern und Gross-Bahren im Kreise Luckau*. (Z. f. Ethnol., Berlin, 1909, XLI, 72-86, 7 figs.) Treats of the sand-pits of Dabern and the gravel-pits of Gross-Bahren. The flat-pits in this region seem to have been used in prehistoric times for reducing iron-ore to iron capable of being forged. Resemblances to African iron, etc., are noted. See v. Luschan (F.) and Olshausen (O.)
- v. Guttenberg** (Fhr.) *Germanische Grenzfluren*. (Arch. f. Anthrop., Braunschwg., 1908, X. F., VIII, 208-229.) Treats chiefly of the origin and history (signification, variations in form and meaning, etc.) of the word *Peunt* (i. e., *pi-unto*, *bi-unto*), which originally meant an enclosed pasture, meadow, or clearing at the edge (wand) of the forest. Some of the author's etymologies will hardly hold, especially certain attempts to find *peunt* in personal names.
- Häberlin** (K.) *Trauertrachten und Trauerbräuche auf der Insel Föhr*. (Z. d. V. f. Volksk., Berlin, 1909, XXI, 261-281, 17 figs.) Treats of mourning dress and mourning customs on the island of Föhr, ancient and modern. The old national costume was suppressed largely about the beginning of the 19th century by foreign (Dutch) influences and city fashions,—that of the men especially. Among the mourning-customs noted are: Death-messengers, washing and clothing the dead (by neighbors), burial-feast, bell-tolling, burial-procession, vociferation at grave, etc. The oldest grave-stones date from the beginning of the 17th century; the older ones often have house-marks upon them. The epitaphs are chiefly High German, rarely Plattdeutsch.
- Hackl** (R.) *Mumienverehrung auf einer schwarzfigurigen attischen Lekythos*. (A. f. Religsw., Lpzg., 1900, XII, 195-203, 3 figs.) Describes the adoration of a mummy on a black-figured Attic lekythos, imitative of the Egyptian and dating from ca. 500 B. C. This hitherto unknown art-representation is probably due to the fact that Greeks settled in Lower Egypt adopted the burial customs of the country.
- *Eine neue Seelenvogeldarstellung auf korinthischen Aryballos*. (Ibid., 204-206, 1 fig.) Describes the first real representation known from Corinthian vases of the soul-bird with a man completely in its power. The specimen is now in the possession of a citizen of Munich.
- Haddon** (A. C.) *Paleolithic man*. (Nature, Lond., 1909, LXXXI, 131-132.) Based on article in *Globus* by P. Adloff (q. v.).
- Hahne** (H.) *Neue Funde aus den diluvialen Kalktuffen von Weimar, Ehringsdorf und Taubach*. (Z. f. Ethnol., Berlin, 1908, XI, 831-833.) Gives results of investigations in 1907 as to the existence of several culture-strata in the Ilm valley. Details are given in Hahne and Wüst's article on paleolithic strata and finds in Weimar and its neighborhood, in the *Zbl. f. Mineral., Geol., u. Paläontol.*, 1908, 197-210.
- Hamy** (E. T.) *Un crâne du Camp de Chasset*. (Bull. Soc. d'Anthrop. de Paris, 1908, V^e s., IX, 433-436.) Describes with measurements a neolithic dolichocephalic adult male skull from the famous "station" of the Camp de Chasset near Chagny (Saône-et-Loire). In the discussion M. Baudouin thought the skull might be Gallo-Roman, on account of the later archeological evidence in this region.
- *Crânes des tourbières de l'Es-sonne*. (Ibid., 723-725.) Notes on

- two skulls (cephalic indexes 75.1 and 76.1) from Ballancourt and Fontenay-le-Vicomte, both found in turfpits. According to Dr H. "these two skulls strengthen the theory which makes most of the tribes of northern France closely akin to the builders of the great megalithic tombs of the region."—Früner Bey's "Celt" and Hamy's "neolithic dolichocephalic."
- Harrison (M. C.)** A survival of incubation? (Folk-Lore, Lond., 1908, xix, 313-315, 1 pl.) Treats of the festival and procession of the Madonna della Libera on the first Sunday of May at Pratola Peligna, near Salmons in the Abruzzi.
- Hayes (J. W.)** Deneholes and other chalk excavations: their origin and use. (J. R. Anthropol. Inst., Lond., 1909, xxxix, 44-76, 1 pl.) Cites at pp. 64-76 evidence from numerous sources as to the probable nature and use of these "pits." According to the author "the evidence now available points . . . in one direction exclusively, namely, that they never had a higher claim than that of 'chalk pits,' 'chalk wells' or 'chalk quarries,' the name 'denehole' being a comparatively modern and misleading title." British chalk seems to have been exported even in pre-Roman days.
- Helm (K.)** Tumbo sax in berge. (Hess. Bl. f. Volksk., Lpzg., 1909, viii, 131-135.) Discusses the old German incantation for stopping the flow of blood, beginning as above, and the Latin variants. The verses are ultimately non-German and derived from Latin. H. thinks the oldest German literature has been more influenced by Latin than is generally believed.
- Hemmendorff (E.)** Runö. (Ymer, Stockholm., 1909, xxix, 197-217, 20 fgs.) Gives results of a summer's visit to the island of Runo in the Gulf of Riga. Notes on people, dress, houses, etc.
- Hénaux (F.)** La tombe belgo-romaine de Borsu. (B. de l'Inst. Arch. Liégeoise, 1907, xxxvii, 321-336, 4 pl.) Treats of the Belgo-Roman grave discovered in 1902 in the center of the village of Borsu and the objects there found of lead (funerary urn with human bones), gold (neck-pendant in form of urn), bronze (cup, candelabra, tripod, *patena* finely worked and richly ornamented, pitcher of artistic type and workmanship), glass (lachratory, cup), iron (lamp, dish, vase, strigils or curry-combs), clay (urns, dishes, plates, etc.) The finds are compared with those of Vervoz. The Borsu grave was perhaps that of a child of the rich owner of an adjoining villa.
- Herlig (O.)** Zum Spiel von der goldenen Brücke. (Z. d. Ver. f. Volksk., Berlin, 1909, xix, 414-416.) Gives texts of several versions (from localities in Baden) of the game of "the golden bridge."
- Hermann (E.)** Bedeutungsvolle Zahlen im litauischen Volksliede. (Ibid., 107-110.) Notes on significant numbers in Lithuanian folk-songs: *Three* (three youths and three maidens, the third sister, etc.; three years, three weeks, third night), *nine* (nine brooks to wash clothes in, nine suns shining in one day, nine branches of trees, nine corners, nine clover-blossoms; three and nine are applied to all sorts of things), *two* (two weeks of wind-blowing, two sisters, etc.), *five* (five years for various purposes, fifth day, etc.). The number *seven* is hardly mentioned. For a large number *one hundred* is usually employed. Indefinite expressions are *two to three* and *five to six*.
- Hermann (O.)** Das Paläolithikum des Bükkgebirges in Ungarn: Miskolcz. Das Szinvtal. Die Höhlen. (Mitt. d. Anthropol. Ges. in Wien, 1908, xxxviii, 232-263, 8 pl., 10 fgs.) Discusses in detail the paleolithic remains of the Bükkgebirg region in Hungary,—previous researches and H.'s own investigations. At Miskolcz the diluvial age of the flints, etc., found on Mt. Ávas in 1891, is confirmed, and the cave-finds also place the presence of man in this part of Hungary in diluvial times beyond doubt.
- Hervé (G.)** Géant finlandais mesuré à Paris, en 1735. (R. de l'Éc. d'Anthrop. de Paris, 1908, xviii, 360.) Brief note calling attention to the record in the proceedings for 1735 of the Académie Royale des Sciences.

of the measurement of "a Finnish giant" (2184 mm. without shoes).

Heuft (H.) Westfälische Hausinschriften. (Z. d. V. f. Volksk., Berlin, 1909, XIX, 101-107.) Nos. 1-54 of house-inscriptions in German and Latin, from various parts of Westphalia (Beckum, Bielefeld, Bigge, Clarholz, Gütersloh, Herzebrock, Kirchhelden, Lette, Lippstadt, Marienfeld, Meschede), dating from 1649 to 1906.

Hildburgh (W. L.) Notes on some amulets of the three magi kings. (Folk-Lore, Lond., 1908, XIX, 83-87.) Treats of the medals and printed slips issued at the cathedral of Cologne as protective amulets, dating back to medieval times, in connection with the relics of the "three holy kings."

— Notes on some Flemish amulets and beliefs. (Ibid., 200-215.) Treats of religious medals, protection against storms ("blessed palm," candles, wax nails, candle-cakes, medals, statuettes of saints), protection of houses (medals, statuettes, horse-shoes), protection of person and curative amulets ("charms," medals, statuettes, "Holy Blood" relics, rings, etc.), amulets for infants (necklaces, teething-rings, statuettes), miscellaneous personal beliefs, protection for and against animals, etc.

— Notes on some contemporary Portuguese amulets. (Ibid., 215-224, 2 pl.) Treats of amulets against the evil eye (horns, hand or foot, claws, human-faced lunar crescents, pieces of red coral, keys, hearts, cross and crucifix, eyes, compound amulets, etc.)

Hilzheimer (M.) Über italienische Haustiere. (Korr.-Bl. d. D. Ges. f. Anthropol., Braunschwg., 1908, XXXIX, 136-141, 2 figs.) Treats of modern Italian domestic animals and their ancestry. Alp cattle, Campagna cattle, horses (the large varieties have been imported; the horse of S. Italy is related to the N. African and is larger than the small Campagna type and the small horses of Naples), goats, pigs, dogs (Naples small type same as in Pompeian pictures and possibly neolithic; "Calabrian mastiff" of medieval importation from beyond the Alps,

where it is prehistoric; larger, long-haired shepherd dog of the south related to the "Pyrenean dog.") The Campagna type of cattle (resembling the Hungarian ox) H. considers autochthonous in Italy. The "Alpine cattle" type is probably a mountain-form or a "Kümmerungsform" in that region, of the European cattle, —it preserves the original color, and from it the spotted cattle may be derived. The *Franquero* cattle of S. America may represent a reversion to primitive type (*Bos primigenius*) in the matter of horns, etc.

Hindenburg (W.) Ueber einen Fund von Mäanderurnen bei Königsberg in der Neumark. (Z. f. Ethnol., Berlin, 1908, XI, 722-775.) Brief account of two urns with meander-ornament, found, together with a number of iron objects (buckle, point, fibulae, etc.), in 1893, in a field on the Rollberg south of Königsberg in Neumark. The form of the meander on the second urn is East-Teutonic. The find dates probably from the first century A. D. (older Roman period).

Hobson (M.) Some Ulster souterrains. (J. R. Anthropol. Inst., Lond., 1909, XXXIX, 220-227, 11 figs.) Treats of artificial underground caves in the counties of Antrim and Down, —at Knockdu, Crebilly, Shankbridge, Lisnataylor Fort, Connor (very many), Bog Head (two-storied), Donegore, Ballymartin, Linnary, Gleamun, Tornamona Cashel, Tavenaboney, Bushmillis, Grant's Causeway, Ballygrainey, Cove Hill, Clannagery, Slanes, Ardtale, Slieve Croob (one of the finest cromleachs in the country), Loughcrew Hills, etc. They are attributed by the folk to "fairies," "Danes," "the good people," etc. Seventeen ogham inscriptions have been found in these caves. Few are of great antiquity.

Höfder (M.) Unterhaltung mit Toten. (Z. d. V. f. Volksk., Berlin, 1909, XIX, 302, 1 fig.) Reproduces an engraving representing an old Breton woman placed by her family at a grave-stone in the cemetery so that she might converse with the dead.

Hughes (I. C.) The legend of Savadan lake. (Folk-Lore, Lond., 1908, XIX, 459-463.) A folk-tale of Bre-

- con, concerning a princess and her lover, a murderer.
- Ilg (Bertha).** *Maltesische Legenden und Schwänke.* (Z. d. V. f. Volksk., Berlin, 1909, xix, 308-312.) German texts of Maltese legends and humorous tales relating to: The wandering Jew, Jesus and the offensive dancer, Antichrist, the sirens, the scratching wayer, the pious man and the leper, the sick man and the pills, Dahaban and the little kettle. Bibliographical notes are appended.
- Jacob (K.)** *Die La Tène-Funde der Leipziger Gegend. Ein Beitrag zur vorgeschichtlichen Eisenzeit der Leipziger Tieflandabucht.* (Jhrb. d. Stadt. Mus. f. Völk. u. Leipzig, 1907, 11 [1908], 56-97, 29 pl., 7 figs.) Treats of the finds of the La Tène period in Leipzig itself and the surrounding region,—burial-grounds, dwelling-places, etc. The Celtic "iron-culture" is richly represented by the La Tène culture in general, but here the burning of the dead indicates a Teutonic people of the last four or three centuries B. C., in large numbers especially at the beginning of the period. Bronze was in use chiefly for ornaments. The objects buried with the dead are predominantly of iron. Pottery of fine and rude types occurs together.
- von Jaden (H.)** *Tirol und Island. Eine Parallele.* (Stgb. d. Anthrop. Ges. in Wien, 1907-1908, 39-40, 1 fig.) Points out similarities in customs, usages, etc., between the Tirolese and the Icelanders,—conservatism, use of ponies, treatment of horses, saddles, lamps.
- Jaeger (J.)** *Bruck an der Amper.* (Globus, Braunschwg., 1908, xciii, 261-265, map.) Treats of the village of Bruck on the Amper in the Bavarian highlands not far from Munich, and its surroundings,—chiefly from a geological point of view. Contains also (pp. 263-265) sketch of the history of man in this region (clear evidence of early paleolithic man not found; neolithic "stations" oldest; relics of bronze and Hallstatt epoch; Roman remains; Teutonic settlements, Alemanni and Franks, etc.).
- Jarriéot (J.)** *Un crâne humain réputé paléolithique le crâne de Béthénas.* (Bull. Soc. d'Anthrop. de Paris, 1908, v^e s., ix, 2 figs., 139-152.) Detailed discussion, with description, measurements, etc., of an adult male dolichocephalic skull, showing certain resemblances to crania of the ancient races of Central Europe.
- Jefferson (M.)** *Man in west Norway.* (J. of Geogr., N. Y., 1908, vii, 86-96, 1 fig.) Treats of environment in relation to man, ice age, etc. Only the edges of the land are usable, together with a few bits on the old sea-beach. Here man has long dwelt ready to fare forth on the ocean. This region is very thinly inhabited.
- Jentsch (H.)** *Lineares Menschenbild auf einem Tongefäss der jüngeren Hallstattzeit aus dem Gräberfelde bei Kerkwitz, Kr. Guben.* (Z. f. Ethnol., Berlin, 1909, xli, 726-730, 2 figs.) Treats of two lineal human figures on an earthen vessel of the later Hallstatt period found in the necropolis of Kerkwitz in the district of Guben, Lower Lusatia, compared with similar objects from other parts of Germany.
- Jones (B. H.)** *Irish folk-lore from Cavan, Meath, Kerry and Limerick.* (Folk-Lore, Lond., 1908, xix, 313-320.) Notes on folk-medicine, death-warnings, a rat charm, beliefs about hair, seafolks and seals, the dead coach and ghost funerals, sleeping armies, why the pigeon cannot build a proper nest, various beliefs.
- Jones (W. H. S.)** *Disease and history.* (Ann. Arch. and Anthrop., Liverpool, 1909, 11, 33-45.) Discusses the influence of malaria on Greek and Roman history, in the 5th century B. C. and 1st century A. D.,—"malaria killed off the fair-haired element in the Greek people, and it is to this fair Northern strain that the Greeks owed their best and noblest qualities." Malaria was "the factor which gave to these other disintegrating forces full scope to work out their natural consequences."
- *Dea febris: a study of malaria in ancient Italy.* (Ibid., 97-124.) Treats of the *Dea febris* (to whom, according to Cicero, a shrine and altar were dedicated on the Palatine hill), and the important part played by fever in the life of the Romans (pestilences, epidemics, etc.; Rome was malarious by 400 B. C.); ma-

laria in Latin literature; effects of malaria (gravely influenced the course of events leading to the downfall of the Roman Empire; large death-rate among children).

Julian (C.) *L'héritage des temps primitifs.* (Revue Bleue, Paris, 1909, XLVII, 74-77.) First part of article on heritage from primitive times. Treats of man of the reindeer period in France; according to J. he was "neither Negro nor Mongol, nor ape, but white." He was also intelligent and an artist. The hunt and war are some of our inheritances from these robust men of prehistoric times.

Kaindl (R. F.) Bericht über neue Arbeiten zur Völkerwissenschaft von Galizien, Russisch-Polen und die Ukraine. (Globus, Branschwg., 1909, xcv, 341-345, 365-368.) Brief résumés and critiques of recent literature relating to the ethnology of Galicia, Russian Poland and the Ukrainian region: Rutkowski's anthropological studies of the peasants of Piłńsk (R. does not believe that the Teutons were long-headed, the Slavs short-headed), and Bochenek's on those of the district of Mława; Talko-Hryniewicz's account of the natives of Wilna in the 16-17th century, and historical sketch of the Tatars in Russia; Tymieniecki's description of the La Tène finds at Kwiatków and the archeological researches of Wawrzyniński, Hadaczek, Smukiewicz, etc.; Kantor's study of the people of Czarny Dmajeć (German influence noted); Potkański's investigations of place-names; Szuchiewicz's study of the festival-calendar of the Huzuls; Hniatiuk's collection of *kolomejki* or short Ruthenian folk-songs and Franko's collection of Galician-Ruthenian proverbs; Kolessas's study of rhythm in folk-songs of the Ukrain. Many periodical articles in *Lud, Wisła, Szwiatowi, etc.*, are noticed.

Kampmeier (A.) A word for Aryan originality. (Open Court, Chicago, 1909, XXIII, 302-304.) Protests against the attempt to derive so many Greek names of deities from Egyptian. See Brewer (W.), Frey (S.).

Karo (G.) Archäologische Mitteilungen aus Griechenland. (A. f. Re-

ligsw., Lpzg., 1909, XII, 359-381.) Treats of recent prehistoric discoveries: The excavations of Tsuntas and Staës in the neolithic settlements of Thessaly at Sesklo and Dimini and many other places; the investigations of Sotiriadis in Böotia and Phocis revealing a culture corresponding to the Thessalian neolithic; Papavasiliu's investigations of Euboean graves, etc. (culture unlike the North Grecian but resembling the Cycladean); excavations of K. Stephanos on Naxos; Seager's investigations on the small islands of Psaira and Mochlos off eastern Crete (here evidences of Cycladean influence occur), and the numerous excavations at Knosos, Phaistos, etc.; Kavvadias's investigations of the necropolis of late Mycenaean stone-graves on Cephalonia; Dörpfeld's investigations in Lenkas, Olympia, etc. Also recent investigations of the archaic and the later Greek periods (Bosanquet and Dawkins at Sparta; Hogarth at Ephesus; Pernier at Prinia, in Crete; Staës at Sunium; Holleaux on Delos; Hill at Corinth; Kavvadias in Epidauros; Kuruniotis and Dickins in Lykosura; Arvanitopoulos at Pagasai, etc.). The last few years have revealed nothing of importance for religion, etc., from the Roman period in Greece.

Kassner (C.) Klapperbretter und anderes Volkskundliches aus Bulgarien. (Globus, Branschwg., 1908, xciv, 7-11, 30 figs.) Brief account of buzzers ("bull-roarers"), gutter-pipe, booths for religious services, chimney-covers, bridges, fountains and wells, shelter-huts, pig-hobble, butter-stamper, spinning-winch, salt-mill, yarn-winder, device for making easier wood-sawing, taper-extinguisher, grave-stone, signal-horn, etc., from various parts of Bulgaria.

Kelemina (J.) Handwerksburschengeographie, ein niederösterreichisches Lied des 18. Jahrhunderts. (Z. d. V. f. Volksk., Berlin, 1908, XVIII, 296-300.) Cites, with explanatory notes, a Graz MS. of the 18th century, an apprentice's song in the dialect of Vienna, describing his travels in Styria, Carinthia, Italy, France, Paris, Tirol, Swabia, Bavaria, Holland, Croatia, Hungary, etc.

Kendall (H. G. O.) Paleolithic micro-liths. (Man, Lond., 1908, VIII, 103-104, 7 figs.) Treats of tiny flakes and trimmed pieces of flint from the gravel at Knowle Farm Pit, Savernake, Essex.

— Remarkable arrowheads and diminutive bronze implement. (Ibid., 1909, IX, 39-40, 3 figs.) Describes a delicate little arrow-head found on a farm in Dorset, also another "of a most unusual type"; likewise a diminutive bronze dagger or knife from near Marlborough.

Kinnaman (J. O.) Prehistoric Rome. (Amer. Antiq., Salem, Mass., 1909, XXXI, 30-40.) Résumés state of present knowledge: Alba Longa really existed (its site has been located) and was the mother-city of Rome. Rome was founded by shepherds during the bronze age, 8-12 centuries B. C. Religious ceremonies had become crystallized long before the founding of Rome and in them iron was proscribed. Romulus is a real name, that of the founder of Rome. Rome is probably much older than we now suspect. K. also thinks that "the civilization may be of Mycenaean origin."

— Some curiosities in Roman archaeology. (Ibid., 65-77.) Treats of the transfer of the temple of Isis and the Egyptian cult of that deity from Sala to Rome, the bridge of Caligula, Maecenas's reforms in the burial of the dead, St Paul and St Peter in Rome, the tomb of St Paul, etc.

Klaatsch (H.) Die neuesten Ergebnisse der Paläontologie des Menschen und ihre Bedeutung für das Abstammungsproblem. (Z. f. Ethnol., Berlin, 1909, XII, 537-584, 4 pl., 30 figs.) Discusses in detail the *Homo Mousteriensis* (particularly jawbone and skull) found in March, 1908, by O. Hauser of Basel in the lower Le Moustier in the Vézère valley, and of the jawbone of the *Homo Heidelbergensis*, compared with the crania and mandible of prehistoric and primitive races, the anthropoids, etc. At p. 572 is a comparison of a Javanese and a European embryo, the former being much more anthropoidal than the latter. The Moustier man is assigned to the Neanderthal type. K. suggests that the Neanderthal man by

reason of his relatively short extremities is allied rather to the modern Arctic than the southern races (e. g., Australian), but other characters point in other directions (e. g., African negroes, etc.). *Eunegroid* is better than *negroid* as a term to apply to some of these characters, which suggest types such as the Zulu.

— Die steinzeitlichen Schädel des Grossherzoglichen Museums in Schwerin. (A. f. Anthrop., Brunschwg., 1909, N. F., VII, 276-286, 6 figs.) Treats of the skulls of the stone age in the Grandducal Museum of Schwerin: 1. The sitting "Hocker" (without stone graves) burials (skull of Plau); 2. Stone chamber and cist graves (skulls of Burow, Blengow, Basedow); 3. Flat graves (skulls of Ostorf, Roggow); 4. Earth burials in mound-graves (skull of Willigrad). According to Dr S. the skulls of Ostorf represent a new cranial type, dolichocephalic with high forehead, prognathic, etc. See Beltz (R.).

— and O. Hauser. *Homo mousteriensis* Hauseri. Ein altdiluvialer Skelettfund im Departement Dordogne und seine Zugehörigkeit zum Neandertaltypus. (Ibid., 287-297, 1 pl., 10 figs.) Treats of the finding in April-August, 1908, in a cave at Le Moustier of a human skeleton accompanied by numerous flint fragments and implements of the Achulean type, with description of the skull, femur, etc. The *Homo mousteriensis* clearly belongs with the men of Spy, Krapina and Neanderthal, now shown to have existed in prehistoric France.

Kohligk (Anna) Traumdeutungen aus Hessen. (Z. d. V. f. Volksk., Berlin, 1908, XVIII, 312.) Cites numerous items of dream-interpretation, observations from flights of birds, etc., taken down from a Hessian shepherd.

Koch (F. J.) In quaint, curious Croatia. (Nat. Geogr. Mag., Wash., 1908, XIX, 809-832, 6 figs., 17 pl.) Contains some notes on the people, dress, markets, etc. The illustrations treat of market scenes, peasant types, etc., in Agram, houses, gypsy's hut, hazel-gatherers, washing, salt-making, etc.

Kossinna (G.) Grossgartacher und

- Rössener Stil. (Z. f. Ethnol., Berlin, 1908, xi, 569-373, 1 fig.) Discusses the Grossgartach and Rössen ceramic types. Koehl and Schliz differ radically as to the relations of these types, the former holding that the "Hinkelstein type," preceded the Rössen, out of which was developed the Grossgartach; the latter that the Grossgartach is the older.
- Krause (E.) Ausflug der Gesellschaft über Stendal nach Salzwedel und Umgebung am 27. und 28. Juni 1908. (Ibid., 821-826.) Account of visit of members of the Berlin Anthropological Society to the old city of Stendal, and the stone-graves at Salzwedel and in the region thereabout.
- Kuratie (G.) Der Toggenburger Senn, Seine Tracht und deren Herstellung. (Arch. suisses d. Trad. Pop., Bâle, 1909, xiii, 95-105, 7 pl., 3 figs.) Treats of the "Senn," or cattle-herd of the Toggenburg region of Switzerland and his dress, ornament, etc., their preparation and manufacture.
- Kurth (G.) La Légis. Etude toponymique. (R. de l'Inst. Arch. Liégeois, 1907, xxxvii, 123-149.) History and etymology of the name *Liège* and its application. The name of the city is derived from *Leudicum*, designating a locality and not a stream as some have argued.—*Legis* is a learned, not a folk, derivation from *Leodium*, *Leudicum*.
- Lang (A.) "The Bitter Withy Ballad." (Folk-Lore, Lond., 1909, xx, 86-88.) Cites versions of "Johnny Johnston" from Edinburgh, West of Scotland, Northumberland, etc.
- Laville (A.) Instrument en silex du type dit: Chelléen de l'Ergéron de Villejuif. (Bull. Soc. d'Anthrop. de Paris, 1908, v^e s., ix, 742-743, 2 figs.) Brief account of a flint of Chelléen type found at Ergéron, belonging to the end of the quaternary epoch.
- Layard (N. F.) The older series of Irish flint implements. (Man, Lond., 1909, ix, 81-85, 2 figs., 1 pl.) Treats of worked flints from raised beach at Lough Lorne, in county Antrim. These flints, taken as a whole, "certainly do not correspond at all closely either to the paleoliths or neoliths so far found in England." In 16 hours, at various times, nearly 1,200 worked flints were collected here.
- Lazăr (V.) Die Hochzeit bei den Südrumanen (Kutzo-Wlachen, Zinzaren) in der Türkei. (Globus, Braunschwg., 1908, xciv, 316-319.) Describes in detail the wedding-customs (betrothal, pre-marriage ceremonies and festivals, wedding-procession and songs, church-ceremony, dance and feast, etc.) of the South Rumanians of the region about Koritz. Among the Megleno Rumanians bride-stealing is still practised. The wedding customs of the few South Rumanians in Bosnia are quite different by reason of Slavonic influences.
- Lefèvre (A.) Le féodalité et les dialectes. (R. de l'Ac. d'Anthrop. de Paris, 1909, xix, 177-178.) According to L., "the diversity of our dialects and patois goes back to the transformation of popular Latin dialects, already localized before the 10th century; maintained and accentuated by feudal parcelling, it gave way before the preponderance of a conquering dialect imposed on France enlarged by Capetian royalty and by the ascendancy of the capital."
- Lehmann-Filhés (Margarete). Ein isländisches Pfarrhaus vor hundert Jahren. (Z. d. V. f. Volksk., Berlin, 1908, xviii, 429-431.) Translates into German the account of an Icelandic parsonage a century ago given in J. Thóróddsen's novel *Mathur og Kona*.
- Isländische Bezeichnungen für die Himmelsgegenden. (Ibid., 207.) Note on the folk-terms for the cardinal points in Icelandic. They are etymologically intelligible not in sea-surrounded Iceland, but in Norway with the open sea to the West and land to the East. Thus N. W. is "out north"; S. W., "out south"; N. E., "land north"; S. E., "land south." From these are derived the names of winds. These terms must have come over with the language from Norway.
- Vielseltige Verwendung der Schafknochen in Island. (Ibid., 1909, xix, 433-434, 4 figs.) Notes on various uses of sheep-bones in Iceland (astragalus-dice for fortune-telling; yarn-winder often pyrographically ornamented; *valnastakkar* or

sheep-bone coat-of-mail, etc.). Into the hole at end of sheep-bones the devil was induced to go by making himself small and then shut up there for good. Children also play making houses with sheep-bones, represent them to be animals, etc. The bones of sheep (so important to the Islander) have multi-form uses.

Livi (R.) *La schiavitù domestica in Italia nel medio evo e dopo.* (A. p. l'Antrop., Firenze, 1908, xxxviii, 275-286.) Treats of domestic slavery in Italy in the Middle Ages and later. From the middle of the 13th to the middle of the 14th century the importation of male and female slaves, who were rather humanely treated and married or mixed with the population of the country, was very common. Venice was quite prominent in the slave-trade, which ended with the Middle Ages, except in the coast cities where it lingered till almost the beginning of the 17th century; in Sicily it continued down to quite modern times. In one year (1298) the records of a notary of Palermo contained 40 items relating to slaves out of a total of 477. Of these 40, 27 are "Saraceni" (colored as follows: white 13, olive 9, black 2, when color is indicated), evidently a term not at all designating race. A census (for military purposes) of male slaves in Palermo in 1565 lists 643, of whom 117 were white, 115 olive, 224 black. Of the blacks 112 are styled *nigri di Burao* (i. e., Burma, in the region of L. Chad). Of the 643 male slaves 225 (including 23 blacks) were *casanazzi*. Cases of slavery in Sicily are noted from the beginning of the 18th century. Partly at least the variety of anthropological (particularly cranial) types met with to-day in Sicily, etc., may be explained by reason of infiltration of these slaves, e. g., the existence of skulls with negroid characters. In Sicily there are to be found also a number of surnames suggestive of servile origin (*Schiavo*, *Salvo*, *Lìbero*, *Di Lìbero*, etc.).

— *L'esclavage au moyen-âge et son influence sur les caractères anthropologiques des Italiens.* (Bull. Soc. d'Anthrop. de Paris, 1908, v^e 2, ix,

201-209.) Résumé by G. de Giovannetti of article by Dr Livi on "Medieval slavery and its influence on the anthropological characters of the Italians," in the *Rivista italiana di Sociologia* for July-October, 1907.

Lohmeyer (K.) *Der Traum vom Schatz auf der Coblenzer Brücke* (Z. d. V. f. Volksk., Berlin, 1909, xix, 286-289.) Discusses the legend of the dream of treasure on the Coblenz bridge, and variants (Mannheim bridge, Binger bridge, Mayence bridge, etc.). The oldest form (later than 1600) of the story, L. thinks, is the Rinzenberg one (Coblenz). See Bolte (J.).

Lovett (E.) Superstitions and survivals amongst shepherds. (Folk-Lore, Lond., 1909, xx, 64-70, 2 pl.) Treats of "thistle-nut" for rheumatism, "cramp-nuts" and "cramp-stones," "overlooking" pigs, lamb-tallies, turf sun-dial, etc., among the shepherds of the South Downs.

— Amulets from costers' barrows in London, Rome and Naples. (Ibid., 70-74, 1 pl.) Treats of metal horns, pendants, phalli, symbols, teeth, evil-eye charms.

Löwenhöfer (J.) 1. Der Depotfund in Dürnfellern. 2. Der Depotfund in Hochwald. (Strgb. d. Anthrop. Ges. in Wien, 1908-1909, 3-4, 2 figs.) Notes find of some 50 bronze neck-rings at Dürnfellern and 165 bronze buckles at Hochwald, belonging to the early bronze age.

Luquet (G. H.) Sur la signification des pétroglyphes des mégalithes bretons. (R. de l'éc. d'Anthrop. de Paris, 1909, xix, 224-233, 36 figs.) First part of article on the signification of the petroglyphs (scutiform, jugiform, etc.) of the megaliths in Brittany. Of the scutiform signs many are doubtless simplifications or conventionalizations of the human figure, entire or in part. The jugiform signs, according to L., are derived from the "frontal line" (superciliary ridges with sometimes nose), a schematization of the human face.

McCormick (A.) Nan Gordon. (J. Gypsy Lore Soc., Liverpool, 1908, N. 2, 1, 211-218.) English text of "a folk-tale dictated by a Galloway tinkler-Gypsy woman . . . which

hints how the Gypsies come to have been connected with some of the nobility of Scotland."

MacCurdy (G. G.) Penck on the antiquity of man. (Rec. of Past, Wash., D. C., 1909, VIII, 32-38, 3 figs.) Treats of Prof. A. Penck's views as to the antiquity of man based on the cave of the Prince; the human remains and implements from the cave at Wildkirchli (Appenzell) in Switzerland, the *Homo Mousteriensis*, etc. Dr. MacC. thinks that "there is no longer any doubt as to the physical characters of man of the Mousterian epoch,—man that lived in Europe 100,000 years ago. But the Chellean industry is older than the Mousterian, and up to the present time no human remains have been found that can with certainty be dated back to the oldest epoch of the paleolithic period."

Magoffin (R. v. D.) The via Praenestina. (Rec. of Past, Wash., 1909, VIII, 67-74, 8 figs.) Describes the road from Praeneste to Rome, which "shows better preservation, crosses finer bridges, and finally enters Rome at a more interesting gate than any other one of the Roman roads."

Mahoudeau (P. G.) Sur un très ancien procédé de capture du bison. (R. de l'Éc. d'Anthrop. de Paris, 1909, XIX, 282-291, 4 figs.) According to M., the triangular figures, etc., on the representations of bisons, horses, mammoths, etc., in the cave-paintings of Font-de-Gaume, Combaudelles, etc., are *trous*, or property-marks, denoting animals captured in pit-traps after the manner of the ancient Pconians as described by Pausanias.

Maia (A. S.) A necropole de Canidello, Terra da Maia. (Portugalia, Porto, 1908, II, 619-625, 4 figs.) Gives results of explorations in 1905-1906 of the necropolis of Canidello in northern Portugal, with descriptions of finds,—flint and polished stone implements, pottery, etc.

Major (A. F.) Rune-stones in the Brodgar circle, Stenness. (Orkn. and Shetld. Miscell., Lond., 1909, II, 46-50, 3 pl.) Treats of two stones with Runic inscriptions found during the work of restoring the stone circles of Stenness. For full ac-

count see Prof. M. Olsen's article in *Saga Book of Viking Club*, 1908, v, Pt. II.

Malten (L.) Des Raub der Kore. (A. f. Religsw., Lpzg., 1909, XII, 285-312.) Discusses the carrying off of the child of Demeter from the flowery mead by the king of the lower world, as related in the Homeric Demeter hymn, the localization of the legend (Mysion, the oldest locality), etc.

Mankowski (H.) Das polnische Herodesspiel in Westpreussen. (Z. d. V. f. Volksk., Berlin, 1909, XIX, 204-206.) Brief account of the Christmas play "Going with Herod," still acted in parts of West Prussia by Polish workmen, etc.

Mattula (L.) Bericht aus Unter-Retzbach. (Stzgb. b. Anthrop. Ges. in Wien, 1907-1908, 21-26, 1 fig.) Résumés finds of 1907,—bronze bracelet, pierced copper axes, pottery fragments, bronze needle, stone axes, grave with skeleton and earthen vessel (neolithic age), etc.

Mauz (W.) Volksglauben aus dem Sarganserlande. (Schw. Arch. f. Volksk., Basel, 1909, XIII, 206-208.) Cites folk-lore relating to the number 12, onion oracle, influence of moon, witchcraft and magic, etc.

Mayr (A.) Eine vorgeschichtliche Begräbnisstätte auf Malta. (Z. f. Ethnol., Berlin, 1908, XI, 536-542.) Gives results of visit in 1907 to the subterranean burial-place of Hal-Saflieni, south of Valetta in Malta, with account of objects (steatopygic clay figures all female, stone amulets, fragments of pottery, skeletons, etc.) there found, now in the Valetta Museum. This important discovery, the details of which are being prepared for publication by Dr T. Zammit, the curator of the Valetta Museum, will do much toward solving the problem of the so-called "sanctuaries" of Malta. The finds indicate marked influence of Egean culture, particularly in the figures and the architecture of the prehistoric "sanctuaries." On the island Gozo pottery, etc., like that of Hal-Saflieni have been found.

Mehlis (C.) Der "Hexenhammer" von Dörrenbach i. d. Pfalz und Verwandtes. (Globus, Brnchw., 1908,

- XCIII, 174-176, 4 figs.) Treats in particular of the so-called "witch hammer," a stone axe used by a "wizard" of Dörrenbach to affect cures. These axes are known in various parts of Europe as "thunder-axes," "thunder-stones," etc.—the *ceramina* of Pliny and other classical writers.
- Mehring (G.)** Das Vaterunser als politisches Kampfmittel. (Z. d. V. f. Volkak., Berlin, 1909, XIX, 129-142.) Cites various examples of political parodies of and poems based on the Lord's Prayer, in addition to the material in the article of Werner in the *Vierteljahrsschr. f. Literaturgeschichte*, 1893, V, 1-40. There are two sorts of these political "Lord's Prayers,"—the oldest begins in the 15th century, lasting to the early years of the 17th (Ulms Vaterunser of 1486, Reutling Vaterunser of 1519, the former the oldest, the latter the best known). Of the "peasants' Lord's Prayer" Werner cites 15 different versions. The text consists of a series of couplets, the last line of each of which ends with a word of the "Lord's Prayer."
- Meisner (H.)** Rekrutierungstatistik. (A. f. Rassen- u. Ges.-Biol., Lpzg., 1909, VI, 59-72, map.) Treats of recent statistics of recruits in Germany, 1894-1903, comparing the percentages of acceptability with those of density of population, birth, marriage, mortality, children of school age, migration, morbidity, increase and decrease of population, occupations, industries, race, etc. No clear correspondence of acceptability of recruits with lung diseases, fertility (legitimate and illegitimate children), migration, fertility of soil, well-to-do life conditions, etc.
- Menzel (H.)** Neue Funde diluvialer Artefakte aus dem nördlichen Deutschland, ihre Kulturstufe und ihr geologisches Alter. (Z. f. Ethnol., Berlin, 1909, XII, 503-506.) Treats of discoveries of diluvial artefacts in 1908 at Eltzum in the valley of the Despe in Hannover, also at Elze, Hameln, etc.; near Wegeleben in Saxony; at Westend, Britz and Südende near Berlin; in the region about Werder near Potsdam and near Phöben, Prellwitz, etc. All the objects (except a few bone fragments and some pieces of quartzite, etc.) are flints. They are the same in culture type although of different geological age (later and older interglacial). They may represent a transition from the archeolithic to the paleolithic (Verwohn).
- Ueber die geologischen Verhältnisse des Spreewaldes. (Ibid., 687-689.) The oldest settlement of the Spree forest is doubtless due to need for protected dwellings and places of refuge as well as for fishing and hunting, and the "islands" about the Kirchplatz and particularly the Schlossberg von Burg.
- Michael (H.)** Zur Leukas-Ithaca-Frage. (Globus, Braunschwg., 1909, XCV, 191-193.) Discusses the question whether the island of Leukas, off the coast of Acarnania, is the Ithaca of the Odyssey, the home of Ulysses, and the efforts of Dörpfeld to show that it was actually an island in ancient times. Capt. W. v. Marée's topographical studies are embodied in his *Karten von Leukas. Beiträge zur Frage Leukas-Ithaca* (Berlin, 1908). The identification, as M. points out, is not at all successful.
- Mielert (F.)** Das heutige Serbien. (Ibid., 9-15, 7 figs.) Notes on industries, art, agriculture, cities, villages, ruins, etc.
- Moesch (H.)** Das Fasnachtarößli im Kt. Appenzell. (Arch. suisses d. Trad. Pop., Bâle, 1909, XIII, 137-139.) Texts of speech made by the "Fasnechbutz," from Tobler and a later one in use in Urnäsch in 1906.
- Mohl (J.)** Mitteilungen über Tätowierungen, angenommen an Soldaten der Garnison Temesvár. (Mitt. d. Anthropol. Ges. in Wien, 1908, XXXVIII, 312-320, 14 figs.) Treats of tattooing as observed among the soldiers of the garrison at Temesvár, Hungary, and its significance, etc. The commonest places for tattooing were: anterior surface of forearm; breast; back of hand; upper arm, finger (except thumb). Rarely tattooed were: penis, buttocks, thighs, face, nose. Forehead, back, neck were not found tattooed. The tattooings contain statements of or indications of military science, civil occupation, etc., in

letters or symbols, etc. Tattooing is very common among these soldiers,—in a troop of Servians quartered at Nevesinje in 1907 nearly every man was tattooed,—not such a proportion in Temesvár. The garrison prisons are "high-schools of tattooing,"—then come barracks, hospitals, etc. Tattooing takes place oftener during active service than before. Home-association, *ennui*, imitation, vanity are some of the reasons given for tattooing. Tattooing is *per se* no indication of criminality or defective intellect.

Monseur (E.) *Le nom des Lombards.* (Bull. de Folk-Lore, Bruxelles, 1909, III, 182-188.) Discusses the origin of the legend concerning the name Lombard (Langobardi, Longbeards), which M. regards as "the remnant of a legend of the fraudulent entry of women into the other-world reserved for warriors."

— **Tom Tit Tot.** (Ibid., 188-192.) Cites variants of this theme from Liège, Audenarde, French Flanders, Antwerp, etc., known as *Vetkou*, *Pier-Wier-Weiz*, *Mynhasntje*, *Kwispeltotje*.

de Morgan (J.) *Note sur le développement de la civilisation dans la Sicile préhistorique.* (R. de l'Éc. d'Anthrop. de Paris, 1909, XIX, 92-100.) Sketches the development of civilization in prehistoric Sicily (few traces of man in pleistocene times, only caverns of Termini, etc., represent quaternary industries; neolithic culture from continental Europe seen in the remains at Pantellaria, and at Palazzolo Acreide, Stentinello, etc., another later culture, with incised pottery, representing a second distinct neolithic civilization). After these come the 4 Sicilian periods, which de Morgan dates earlier than do the Italian archeologists (first, 3d and 2d millenniums B. C.; second, 20-21st centuries B. C.; third, 12-9th centuries B. C.; fourth, 9th century B. C., historic). The remains of Palazzolo Acreide date from the third millennium B. C. Almost uninhabited in the quaternary period, Sicily was peopled only on the coasts in neolithic times (from continental Europe); then came Cretan, Myce-

nean and Phœnician, and finally Hellenic elements.

Morrison (S.) *The lazy wife: a Manx folk-tale.* (Folk-Lore, Lond., 1908, XIX, 78-83.) Story told from memory by a Peel woman who heard it some 60 years ago from her mother. English text with Manx words *passim*.

— **Billy Beg, Tom Beg, and the Fairies.** (Ibid., 324-327.) English text of a Manx fairy-tale from Peel.

de Mortillet (A.) *Souterrains et grottes artificielles de France.* (R. de l'Éc. d'Anthrop. de Paris, 1908, XVIII, 285-307.) Lists by localities (alphabetically) under departments the known *souterrains* and artificial caves,—*boxes*, *creuttes*, *caves*, *crosses*, *calés*, *carrières*, *marquois*, *forts*, etc.

Mortimer (J. R.) *The stature and cephalic index of the prehistoric men whose remains are preserved in the Mortimer Museum, Duffield.* (Man, Lond., 1909, IX, 35-36.) Notes on skeletons of the late neolithic or early bronze age (of 101 skulls, 34 are dolichocephalic, 28 brachycephalic, 39 mesocephalic; average computed statures respectively 5 ft. 7 in., 5 ft. 6 in., 5 ft. 6 in.); early iron age, chiefly from the Danes' graves (53 skulls, 37 dolichocephalic, 2 brachycephalic, 11 mesocephalic; average computed statures respectively 5 ft. 4.6 in., 5 ft. 4 in., 5 ft. 5 in.); Anglo-Saxon remains (61 crania, dolichocephalic 31, brachycephalic 7, mesocephalic 23; computed average stature respectively 5 ft. 5.7/11 in., 5 ft. 4.1/11 in., 5 ft. 3.6/11 in.) The long-headed individuals seem to have been somewhat the taller.

Moser (L. K.) *Die Römerstadt Agunt.* (Globus, Braunschw., 1908, XCIV, 226-227.) Résumés the data in A. B. Meyer and A. Unterforcher's *Die Römerstadt Agunt bei Lienz in Tirol*, published preparatory to further investigations on the site of Aguntum.

— *Bericht über Ausgrabungen in einigen Felsenhöhlen von Nabresina, sowie über einige besondere Fundobjekte aus Karsthöhlen.* (Stagh. d. Anthrop. Ges. in Wien, 1907-1908, 29-33, 3 figs.) Notes on pottery fragments, flints, bone implements, etc., animal bones (also a bronze knife and an iron object) from Na-

bresina and the caves of the "Karst."

Much (M.) Vorgeschichtliche Nahrung und Nutzpflanzen Europas. (Mitt. d. Anthrop. Ges. in Wien, 1908, xxxviii, 195-227, 2 figs.) Discusses the prehistoric food and economic plants of Europe, their culture-historic age, origin, etc. Wheat (in Solutrèe period wild wheat used as food; in neolithic period cultivation of wheat already common.—4 varieties, of which none can be shown to be of Asiatic origin), barley (Oriental 4-lined variety not found in neolithic Europe; wild form used in Solutrèe period; 6-lined variety is African or probably Mediterranean), weeds in cultivated land (those of neolithic period,—cornflower, *Silene*, corn-rose, etc.,—point to the coast-regions of the Mediterranean), millet (origin of *Panicum miliaceum* not known; *P. italicum* first used wild by prehistoric Europeans), buckwheat (used in neolithic times as food; developed from European wild form), lentil and pea (neolithic; both developed from European wild plants), hog-bean (not known in neolithic times north of the Alps; came from South), "water-nut" (much used in neolithic times), poppy (derived from the wild poppy of southern Europe; neolithic in Switzerland, Upper Italy, etc.), apple and pear (derived from wild varieties in prehistoric Europe), walnut (known in France in paleolithic times, whence it spread over central Europe), flax (several varieties in use in prehistoric Europe derived from wild native plants). Dr M. holds that the domestic cattle of prehistoric Europe were of different race from those of the Orient; their use also (yoke; use of cattle for threshing grain not known in prehistoric central and northern Europe) was different. Prehistoric cattle-culture and agriculture in Europe had their own indigenous beginnings and developments.

Müller (C.) Predigtparodien und andere Scherzreden aus der Oberlausitz. (Z. d. V. f. Volksk., Berlin, 1909, xix, 175-181.) Cites from various parts of Upper Lusatia 5 parody-sermons and jest-speeches: Wedding-sermon and jest-sermon from Dittersbach dating 1830-1850, etc.; cobblers'

sermon from Lugau; aale on the island of good nothing (from Dittersbach; the huge bass fiddle (from Dittersbach). See Bolte (J.).

Murke (M.) Die Volksepik der bosnischen Mohammedaner. (Ibid., 13-30.) After ethnographical-historical introduction (the first large folk-epic of the Bosnian Mohammedans, containing 2,160 verses, was published by Krauss in 1886; the first collection of epic folk-songs by Hörmann in 1888-1889), the author gives an account of the singers and their songs based chiefly on Marjanović's *Junačke pjesme mahomedanske* (2 vols., 1898-1899). Marjanović and his collaborators collected in 1886-1888 as many as 320 Mohammedan songs, of which 290 are epic and 30 women's lyrical, containing in all some 255,000 verses. Of these songs 30 contain less than 100 verses and 4 more than 3,000, the average being 873. Most of the songs belong to the 17th century, few are more than 200 years old. The favorite hero is Mujstaj-beg of Lički (Liika). M. criticizes some of the views of Krauss as to the guslars, their social position, etc. The term *guslar* songs, e. g., is objectionable, since at least in N. W. Bosnia they are sung only to the *tambura*. Some poems and passages in others belong to the most poetic of the folk-epic material of the Serbo-Croats. The songs seem to have a historical basis, with frequent exaggerations, etc.

Näbe (F. M.) Die steinzeitliche Besiedelung der Leipziger Gegend unter besonderer Berücksichtigung der Wohnplatzfunde. (Veröff. d. städt. Mus. f. Völkerk. zu Leipzig, 1908, H. 3, viii + 58, 6 pl., 2 maps, 121 figs.) Detailed account of remains of the stone age (finds at dwelling places especially) in the neighborhood of Leipzig,—at Bienitz, Güntherodorf, Moritzsch, Eutritzsch, etc. No paleolithic remains have yet been discovered, but the neolithic are very rich (stone implements in depôts and isolated, pottery, ornamented objects, etc.). Interesting are fragments of a clay drum (p. 25) from Eutritzsch. The Leipzig neolithic people were quite numerous, and, at the height of

the period, sedentary agriculturalists and cattle-breeders, living in large village-like communities. The absence of "Schnurkeramik" settlements is probably due to the nomadic character of the people. The Leipzig stone-age settlements seem not to have continued beyond the time when the spiral-meander pottery became common.

Natividade (M. V.) *Alcobaça ethnographica. I. As rocas da minha terra.* (Portugalia, 1908, II, 638-646, 42 figs.) A study in Alcobaça local ethnography. Treats of distaffs, needles, corn-pickers and their ornamentation, etc.

Neilson (G.) *Brannanburgh and Burnswark.* (Scott. Hist. Rev., Glasgow, 1909, VII, 37-55, 2 figs., 1 pl.) Discusses the evidence in the *Egla* or *Egla's Saga* as to the site of the famous battle of Brannanburgh, which the author would identify with Burnswark in Dumfriesshire,—the plans, etc., of the military works are given.

Nelles (W. R.) *The ballad of Hind Horn.* (J. Amer. Folk-Lore, Boston, 1909, XXII, 42-62.)

Newstead (R.) On a recently discovered section of the Roman wall at Chester. (Ann. Arch. and Anthropol., Liverpool, 1909, II, 52-71, 7 pl.) Detailed account of recently discovered remains forming part of the original fortifications of Deva and objects found in connection therewith. Also notes on a Roman concrete foundation in Bridge street unearthed in June, 1905; and on a paleolithic implement, found in building debris in Chester.

Noll (K.) *Fragstücke beim Rugericht in Rappennau vor 300 Jahren.* (Z. d. V. f. Volksk., Berlin, 1909, XIX, 304-308.) Prints a questionnaire (48 items concerning cultural, legal, moral, social, religious and political matters) dating from the beginning of the 17th century, and forming part of the official documents of the village of Rappennau in Baden.

Notes on Macedonia. (Nat. Geogr. Mag., Wash., 1908, XIX, 790-802, 5 figs., 7 pl., map). The illustrations treat of market and street scenes, Greek, Macedonian, Albanian, Turkish types, etc.

Nunes (J. J.) *Costumes algarvios.*

O vestuário. (Portugalia, Porto, 1908, II, 654-655.) Notes on Algarve folk-dress.

Obermaier (H.) und Breuil (H.) *Die Gudenushöhle in Niederösterreich.* (Mitt. d. Anthropol. Ges. in Wien, 1908, XXXVIII, 277-294, 11 pl., 9 figs.) After briefly noting the finds at the Viérzchov cave (in Russian Poland near Cracow, Galicia), etc., the authors treat of the Gudenus cave and its remains (west of the village of Krems on the Danube in Lower Austria) investigated and described in 1883-1884 by F. Brun and L. Hacker, and discussed in detail by Woldrich (1893) and Hoernes (1903). The finds consist of animals, stone implements (*coups de poing*, scrapers, borers, fragments, etc.), bone and horn implements (also a "needle-case" made of the radius of a bird, having the head of a reindeer drawn upon it), some bone and ivory ornaments, etc. In the main cave and in the small cave 7 strata were found. The lower paleolithic strata may be termed Achuleo-Mousterian. The Gudenus cave is one of the richest localities in Central Europe for *coups de poing*. Later on, the cave was again sought by quaternary man, who left there the Magdalenian remains. Until the present investigation in 1907 the cave was altogether assigned to the Magdalenian epoch. It ranks now as a most important prehistoric "station" of an earlier epoch as well.

Oesten (G.) *Bericht über den Fortgang der Rethraforschung.* (Z. f. Ethnol., Berlin, 1908, XL, 559-564, 915-919, 8 figs.) Gives the results of the Rethra investigations in 1907. The discovery of a polished stone axe is of interest. Other finds were pottery fragments, bones, pieces of decayed wood, boards, etc. O. considers it probable that a pile-dwelling once existed here. In the last excavations, an iron buckle, several objects of bronze, etc., were found. The alleged foundation of horns (text of Thietmar) has not yet been discovered.

de Oliveira (M.) *Thesouros encontrados em algunos castros do Norte de Portugal.* (Portugalia, Porto, 1908, II, 666-668.) Treats of finds

of coins of Roman emperors, etc., at Monte de Santo Ovidio, Castro de Eiras, Monte de Castello, etc., in Northern Portugal.

- Olshausen (O.)** Eisengewinnung in vorgeschichtlicher Zeit. (Z. f. Ethnol., Berlin, 1909, xxi, 60-72, 86-107, 8 figs.) Treats of the prehistoric "iron works" at Tarxdorf in Silesia (here iron was obtained in the form of soft not-smelted material; the large number of "furnaces" is accounted for by each having been used but once), the so-called "iron-furnaces" in the Neckar district of Württemberg, etc. Also the obtaining of fusible iron in crucibles and its geographical distribution. In the discussion Hr. Busse spoke of iron in prehistoric times in Brandenburg, Hr. Krause exhibited photographs of the Tarxdorf furnaces and replied to O.'s claim that actual smelting had not occurred there; Hr. Giebelier treated the question of hard and soft iron, the amount of iron used in Solomon's Temple, etc., Hr. P. Staudinger called attention to Lemaire's account of iron-furnaces in the Katanga region of the Congo State, Hr. v. Luschan reiterated his conclusions, and A. Schlie spoke of the "smelting pits" (not "iron furnaces") of the Neckar country. See v. Luschan (F.) and Grosse (H.).

- P.** Zur Anthropologie der Georgier in Kartalinien und Kachetien. (Globus, Brunschwig, 1908, xciv, 335-337.) Résumés the anthropological data in A. N. Diavachov's *Antropologija Gruzii* (Moscow, 1908), giving the results of investigations of 400 individuals in Kartalinia and Kachetia in 1903-1905. The Georgian is of prevailing (54%) dark type, brachycephalic (only 2% dolichocephalic), medium stature.

- P.** Slawisches. (Ibid., 208.) Résumés some of the data in Prof. T. J. Florinskii's *Slavianskoe pleмя* (The Slavonic People), a statistical-ethnographical *aperçu* of the Slavs of today (Kiev, 1907). The total number of Slavs is 128,521,000, of which 107,496,000 are in the Russian Empire, 45,000 in Italy, and 3,104,000 in the United States (2% of all). The Greek church counts 103,740,000, the Roman Catholic 34,298,000, the Prot-

estant churches 1,570,000 and the Mohammedans 1,175,000 Slavs. Outside the Russian Empire there are 37.8% of the Slavs. The movement of the Slav is now eastward. Since the 9th century the German, Hungarian and Rumanian "islands" have kept the Slavs divided into two sections, a northwest and a southwest.

- Pate (J.)** Sur les deux petites îles de Houat et Hoëdic. (Bull. Soc. d'Anthrop. de Paris, 1909, v^e s., x, 5-9.) Résumés from *L'Agriculture Nouvelle*. Notes on population, houses, animals, vegetation, graves, industries, etc. There are a number of interesting megaliths on the islands off the coast of Morbihan. In the discussion, MM. Anthony and Baudouin added other data and M. Sébillot called attention to Delalande's *Houat et Hoëdic*, published in 1850.
- Pappusch (O.)** Inschriften an Kreuzfixen und Bildstöcken in Westfalen. (Z. d. V. f. Volksk., Berlin, 1908, xviii, 433-436.) Gives texts of 24 inscriptions (one Latin, the rest German) from crucifixes, etc., in shrines or on the roads near the villages of the Westphalia-Münster country.

- Patrick (Mary M.)** The emancipation of Mohammedan women. (Nat. Geogr. Mag., Wash., 1909, xx, 42-66, 18 pl., 1 fig.) Treats of the progress in freedom of Turkish women, particularly as a result of the "Young Turkey" revolution of July 24, 1908. They have been for centuries property-holders, have furnished many writers, developed midwives, acted as financiers of the palace, shown ability along commercial lines, become their own lawyers, practised teaching with success, and are now entering politics, having abandoned their veils.

- Peet (T. E.)** Prehistoric finds at Matera and in South Italy generally. (Ann. Arch. and Anthropol., Liverpool, 1909, 11, 72-90, 2 figs., 4 pl.) Gives an account (after Ridola, Patroni, Mayer, etc.) of the cave-dwellings and burials of the neolithic period in the Grotta dei Pipistrelli, the Murgia Timone and other intrinched sites, the hut-foundations of Serro d'Alto (neolithic), the graves of the bronze age at the Murgia Timone,

cist-graves of Murgia Timone, cremation necropolis of Monte Timmari, etc. The pottery of Matarà (7 types) is especially considered. The antiquities of Matarà extend almost unbroken from the neolithic age to the Greek period.

Peixoto (R.) As filigranas. (Portugalia, Porto, 1908, 11, 540-579, 53 figs.) Treats in detail of filigree work (rings, pendants and ear-rings, beads and necklaces, crosses, collars, stars, crucifixes, reliquaries, hearts, enamels, bracelets, etc.), its history, technique, objects and ornaments manufactured, accessories (stone, enamels, etc.), uses and customs connected with ornaments, etc., in Portugal.

Os pucareiros de Ossella. (Ibid., 653.) Note on the makers of the black pucaros and their ceramic art now in process of disappearing.

Contos populares de animais. (Ibid., 660.) Three brief animal tales (wolf and she-fox, she-fox and cat, nightingale).

As explorações da cidade de Terroso e do Castro de Laundos, no Concelho da Póvoa de Varzim. (Ibid., 677-680, 4 portr., 3 figs.) Notes on the extensive explorations in 1906-1907 of Terroso patronized by Sr A. F. dos Santos Graça, and of Laundos under the auspices of Sr Dr D. Alves, the results of which are soon to be published.

O homem da maça. (Ibid., 676-677, 1 fig.) Treats of "the man with the club," a stone statue from Santa Cruz do Bispo,—probably a figure of a warrior.

Pessler (W.) Die Abarten des altaichsischen Bauernhauses. Ein Beitrag zur deutschen Ethno-Geographie. (Arch. f. Anthrop., Brnschw., 1908, N. F., VIII, 157-182, 23 figs.) Detailed account of the varieties of the Old Saxon peasant-houses (peculiarities of construction, with distribution-map of 6 varieties; 9 varieties of plan, with map of distribution). The transitional and mixed forms are indications of the degree of ethnic mixture, etc. The Saxon house is co-extensive with Saxon art,—the domain of purest Saxondom includes the region of the unraised "Küh-

bunghaus" and the uninfluenced "Flettliedienhaus."

Peyrony (D.) Station préhistorique du kuth, près Le Moustiers, Dordogne. Aurignacien, solutréen et magdalénien. (R. de l'Éc. d'Anthrop. de Paris, 1909, XIX, 156-176, 8 figs.) The "station" of Ruth represents six well-defined strata, each with characteristic implements, etc.: Old Magdalenian, upper, middle and lower Solutrean, upper and middle Aurignacian. Stone, bone and horn implements, etc., are described,—interesting is a color grinder from the upper Aurignacian. This important "station" again proves the pre-Solutrean character of the Aurignacian.

A propos des fouilles de La Micoque et des travaux récents parus sur ce gisement. (Ibid., 380-382.) Résumés recent monographs on the finds in the quaternary strata of La Micoque in the valley of the Vézère, by Peyrony, Hauser, Obermaier, etc. P. considers the facts support his views against Hauser.

Pinho (J.) Castros do concelho de Amarante. (Portugalia, Porto, 1908, 11, 673-675, 27 figs.) Fourth section treating of the ceramic remains, pits, excavations, etc., at Castello Velho.

Pires (A. T.) Os pregões d'Elvas. (Ibid., 654-660.) Texts and music of 25 cries of street-venders in Elvas, 6 from Lisbon and 2 from Portalegre; 18 other Lisbon street-cries are given by A. Mera in the *Serões* for April, 1906.

Ploy (H.) Zur Anthropologie des oberen Saalrachgebietes. (Mitt. d. Anthrop. Ges. in Wien, 1908, XXXVIII, 324-367, 2 figs., 12 tables.) Gives details of measurements, color of body, eyes, hair, etc., of 423 men (48 Tirolese, 39 half-Tirolese, and 316 from Pinzgau) from the Oberpinzgau region of western Austria. Some 300 women and few *crétins* were also measured (they are not considered in this article), making 750 or 14% observed out of an adult population of 5,500. In stature the Tirolese are rather taller than the people of Pinzgau, the latter more dolichocephalic,—Pinzgau is one of the most dolichocephalic regions in the Austrian Alps. The inhabitants of

Pinzgau go back chiefly to already mixed Bajuvarian immigrants, but the original types have passed over almost completely into mixed types (head and skull, face),—the complexion, however, still recalls more the Nordic than the dark, round-headed type (*Homo alpinus*).

Pokorný (J.) Der Ursprung des Druidentums. (Ibid., 34-36.) Discusses the origin of druidism (priesthood, magic, cult of the oak, etc.) According to P., "druidism originated among a people, inhabiting the British Isles before the Celts, a people belonging probably to those great stocks that occupied Western and Southern Europe long before the coming of the Indo-Germans." In the discussion Much and Goldmann treated the etymology of the word *druid*.

Polain (E.) Architecture Néogotique. Les maisons en bois à pignon à Liège (B. de l'Inst. Arch. Liégeoise, 1907, XXXVII, 99-121, 4 pl., 5 figs.) Treats of wooden houses of the pignon type in Liège. Blue and green seem to have been used as colors for painting.

Polivka (G.) Neuere Arbeiten zur slawischen Volkskunde. 2. Südslawisch. 3. Russisch. (Z. d. V. f. Volksk., Berlin, 1908, XVIII, 313-331.) Brief résumés and critiques of recent South Slavonian and Russian literature relating to folk-lore: Bosnian, Serbian (the Mijatović-Debelković-Petrović *Customs of the Serbian Folk* is important), Bulgarian, Russian (Malevič's collection of White Russian songs; Markov, Maslov and Bogoslavskii's collection of songs from the shores of the White Sea; Charuzin's study of fire-worship; Charuzin's monograph on the Slavonic house, 1907; V. Hnatiuk and A. Začernajzer's study of 2830 love-songs; M. Dragomanov's studies of Little Russian folk-lore and literature; I. Franko's collection of Little Russian proverbs from Galicia; Z. Kuzelja's work on the child in custom and belief of the people of the Ukraine), etc.

— Neuere Arbeiten zur slawischen Volkskunde. 2. Südslawisch. (Ibid., 327-328.) Brief reviews and critiques of recent literature (books,

articles in periodicals, etc., relating to South Slavonic folk-lore: Slovenian (notable is the third volume of Strkelj's *Slovenian Folk-Songs* dealing with religious songs, etc.), Serbo-Croatian (Rožić's work on the Prigorje country in western Croatia; Krauss's work on the folk-lore of the South Slavs, etc.), Bulgarian (Deržavin's work on the Bulgarian colonies in Cherson and Tauris; Jankor's collection of epic and lyric folk-songs, 1908), etc.

— Neuere Arbeiten zur slawischen Volkskunde. 3. Russisch. (Ibid., 441-457.) Brief critiques and résumés of recent Russian folk-lore literature: *The History of Russian Literature* (Moscow, 1908) by many competent hands, treating of folk-literature, folk-poetry, etc.; V. T. Miller's *Modern Russian Epic Songs* (Moscow, 1908); N. V. Gogol's *Little Russian Folk-Songs* (St. Petersburg, 1908); Oněukov's *North-Russian Märchen* (St. Petersburg, 1908); the third volume of Jakuškin's *Customary Law* (Moscow, 1908); V. Anderson's *History of Sects*, etc. (St. Petersburg, 1908); Zelenin's *The Russian Plough* (1908), etc., are among the chief works noted.

von Preen (H.) Kopfziegel, ein Giebel-schmuck aus Oberbaden. (Ibid., 1908, XVIII, 277-279, 5 figs.) Brief account of hollow tiles with the representation of a human head at one end, used as gable-ornaments in the region between Freiburg in Baden and Basel,—at Müllheim, Eschbach, Oberweiler, Niederweiler, etc.

— Spatzenhafen aus Müllheim in Baden. (Ibid., 280.) Note on glazed pots ("spatzenhafen"), used as gable-ornaments on houses in Müllheim, Baden.

Primrose (J.) Jocelyn of Furness and the place-name Glasgow. (Trans. Glasgow Archæol. Soc., 1908, N. S., V, 220-228.) Discusses the interpretation of the name *Glasgow* given by Jocelyn, a monk of the Cistercian Abbey of Furness, ca. 1190 A. D. P. favors Jocelyn's etymology = "dear church," hybrid Latin-Celtic.

Raymond (P.) Céramique de l'époque néolithique en Gaule. (Bull. Soc. d'Anthrop. de Paris, 1908, V^e 2, IX, 789.) Notes on fragments of pottery

- from a cave in the department of Gard belonging to the period of transition from the neolithic to the metal age,—the first discovery of the kind in southern Gaul.
- Regàlia (E.)** Ancora sul Cammello della Grotta di Zachito, Salerno. (A. p. l'Antrop., Firenze, 1908, xxxviii, 287-298.) Reply to criticisms, etc., of L. Pigorini in a recent article in the *Bollettino di Paleontologia Italiana* for 1908, concerning R.'s views as to the camel of the Zachito cave and its origin.
- Rehsener (M.)** Tiroler Volksmeinungen über Erdbeben. (Z. d. V. f. Volksk., Berlin, 1909, xix, 198-199.) Cites folk-ideas from Tirol concerning earthquakes: Caused by wind, rain flowing into oil underground, cold, sun, great sea-animal, fire-mountain, cracks in rocks, etc.
- Reinach (A. J.)** La flèche en Gaule, ses poisons et ses contre-poisons. (L'Anthropologie, Paris, 1909, xx, 51-86, 189-206, 10 figs.) Well-documented study of the arrow in ancient Gaul (historic, numismatic, ceramic, monumental, sculptural, etc., evidence), of the use of bow and arrow in Gaul, and the employment of arrows tipped with poison.
- Reinhard (W.)** Eine Manuskriptkarte der Britischen Inseln aus dem 16. Jahrhundert. (Globus, Braunschwg., 1909, xcvi, 1-2, 1 pl.) Reproduces and briefly describes a MS. map of the British Isles (now in the British Museum), dating from the middle of the 16th century (later than 1534, earlier than 1546). The map is notable as representing the whole island group.
- Renard (L.)** Rapport sur les recherches et les fouilles exécutées en 1907 par l'Institut Archéologique Liégeois. (B. de l'Inst. Arch. Liégeois, 1907, xxxvii, 361-370, 1 fig.) Notes on a tumulus(?) at Ombrét-Rausa, finds of pottery, tiles, etc., at Jupille, Belgo-Roman tomb at Borsu (see Hénaux, P.) and burial-place at Tourinne-la-Chaussée (also other remains at Chardeneux), Belgo-Roman tumulus at Soheret-Tinlot, etc.
- Reymond (M.)** Cas de sorcellerie en pays fribourgeois au quinzième siècle. (Arch. suisses d. Trad. Pop., Bâle, 1909, xiii, 81-94.) Gives details of five trials for witchcraft in 1458, 1461, 1464, 1477, 1498, in the Freiburg district. In two cases, at least, the accused were burned at the stake. The sentences in the others are not known.
- Ridgeway (W.)** The relation of anthropology to classical studies. (J. R. Anthropol. Inst., Lond., 1909, xxix, 10-25.) Points out the valuable results of the comparison of the material remains of Greece and Rome and those of savage peoples. Origin of Greek and Roman coin weights (barley-corn as unit), effects of Mycenaean discoveries, Greek tragedy (riddle of lock of hair and foot-prints in clay found by Electra), elucidation of Homer, Herodotus and other ancient writers of Greece and Rome, are discussed. Aid given by anthropology and language to literature emphasized.
- Robertson (D. J.)** Orkney folk-lore notes. (Ork. and Shetl. Old-Lore Miscell., Lond., 1909, ii, 105, 109.) Notes on "Finn men," fishermen's superstitions, butter-charm, fairies, etc.
- Roediger (E.)** Allerlei aus Rollsdorf bei Hohnstedt, Mansfelder Seekreis. (Z. d. Ver. f. Volksk., Berlin, 1909, xix, 439-440.) Notes on folk-festivals, wedding and house-lore (luck and ill-luck), plant and animal superstitions, etc.
- Rona-Sklarek (Elisabet).** Ungarische Märchen. (Ibid., 92-95.) Continued from Bd. xii and xvii, Nos. 5-6 of Hungarian tales (German text only): How long lasts the widow's vow? The purse found on the way to school.
- Rossat (A.)** Proverbes patois. Recueillis dans le Jura bernois catholique. (Arch. suisses d. Trad. Pop., Bâle, 1909, iii, 31-48.) Last section, Nos. 226-423 of proverbs from the Catholic region of the Bernese Jura, phonetic patois text, with versions in literary French. The localities represented are Mettemberg, Develler, Porrentruy and Ajole, Delémont, Soyhières, Franches-Montagnes, etc.
- Sampaio (A.)** Os povos marítimos do norte de Portugal. Capitolo III. O mar livre. (Portugalia, Porto, 1908, ii, 580-604.) Historico-eth-

- nographical notes on the peoples of the northern coast of Portugal,—Atrio, Varzim, Porto, etc.
- Sampson (J.)** Welsh Gypsy folk-tales. (J. Gypsy Lore Soc., Liverpool, 1908, N. S., I, 258-270.) Gypsy text and English versions of "The Green Man," belonging in the cycle of Campbell of Islay's "Battle of the Birds," and Conor Maguire's "The Man with the Bags," etc.
- A hundred Shelta sayings. (Ibid., 272-277.) Collected in Liverpool about 17 years ago, chiefly from two old Irish tinkers. Nos. 1-78 "little sayings," 79-89 proverbs, 90-100 wishes, good and evil.
- dos Santos Rocha (A.)** Estações pre-romanas da idade do ferro nas viscundanças da Figueira. Parte 2^a. O Crasto, Parte 3^a. Chões e Pardinheiras. (Portugalia, Porto, 1908, II, 493-516, 2 figs., 6 pl.) Second and third parts of monograph treating of the pre-Roman "stations" of the iron age in the neighborhood of Figueira, Crasto in particular: Topography and archeological stratigraphy, fortifications and dwellings, metal objects found (evidence of iron forging, lance-head, hook or clasp, etc.; bronze weapons, including a dagger, the only one reported so far from Lusitania, fibulae and other implements and ornaments, a fine small sheet of copper, a small ring of tin, and a piece of lead left over from casting), pottery (less common at Crasto than at Santa Olaya; indigenous pottery of primitive type and exotic wheel-made; hand-made exotic vases, pottery of local manufacture modified under influence of exotic models), objects of glass (beads, fragment of small vase of the sort generally held to be of Egypto-Phœnician origin), stone (portions of mill-stones, spheroidal piece of quartz with pits, stone pestles, etc.), horn and bone (holders for small objects, made of stag-horn or long bones of animals), kitchen-refuse, etc. The author concludes that the "stations" of Santa Olaya, Crasto, and Chões belong to the Marnean or La Tène I period of the iron age, with considerable evidence of Ibero-Punic influences coming from the southern part of peninsula by sea, and with the Punic element some traces of Etruria and the eastern Mediterranean.
- Savoy (H.)** La flore fribourgeoise et les traditions populaires. (Schw. Arch. f. Volksk., Basel, 1909, XIII, 176-190.) Treats of the folk-lore of the flora of Friburg, Christmas and New Year (the year begins Dec. 25), activities of winter-time, spring, etc. The folk-names of plants, their uses, etc., are given,—also rites and ceremonies connected therewith, customs and plays of children, etc.; the festival of St John; poisons, etc.
- Saxby (J. M. E.)** Shetland names for animals, etc. I. Animals. (Ork. and Shetl. Old Lore Ser., Lond., 1909, Miscell., II, 168-170.) List of some 80 names of beasts and birds, with notes. The diver is called *hedder-con-dunk* from the children's game of see-saw. The name *brodda*, implying perfect motherhood, is taken from *bod*, a mother-geese.
- Schell (O.)** Der Donnerbesen in Natur, Kunst und Volksglauben. (Z. d. Ver. f. Volksk., Berlin, 1909, XIX, 429-432.) Treats of certain parasitic growths on tree-branches, known in Germany as *Donnerbesen*, being popularly ascribed to lightning strokes; also to the elves, etc. In house-architecture they are imitated as a protection against lightning, etc.
- Die Entwicklung des bergischen Hauses. (Ibid., I-12, 4 figs.) Sketches the Berg house in its development from the year 1500 down to the present. It is a Low German house in origin,—a form of house with a hearth-fire, contrasted with the High German two-fire house (*Herd, Ofen*). The best type of the L. G. peasant house, out of which by organic transformation the Berg house has arisen, is the Low Saxon house of the heath-country. Local coloring has also occurred. In the middle of the 18th century a great change, due to industrial development, took place, and imitation of French style. The Berg house is interesting as having been the basis of the so-called "colonial style" in America.
- Bergische Trachten. (Globe, Braunschwg., 1909, xcv, 231-235, 248-252, 11 figs.) Treats of folk

dress and ornament in the former duchy of Berg, past and present. The blue frock, the woman's cap, the "bride-crown" (to be worn by the chaste only), the *Boschklappen* (vest), wooden shoes, etc., are noted. The iron-ware workmen, the knife-grinders, blacksmiths, carters, weavers, milk-men, young recruits, etc., had all their characteristic dress and ornaments. The Berg folk-costume has been influenced essentially on the one side from the Rhine region (formerly Franconian) and on the other from Saxon Westphalia.

Schenck (A.) *Étude sur l'anthropologie de la Suisse*. II. (Bull. Soc. Neuchât. de Géogr., 1908, xix, 5-57, 4 pl.) Treats with details of measurements, of human remains from neolithic caves and burial-places (Schweizersbild, Dachsenbüel, Chamblandes) and of the human races of Swiss neolithic period (lake-dwellings, burial-places),—pigmies, race of Baumes-Chaudes-Cro-Magnon, negroid races of Grimaldi, neolithic brachycephals, neolithic dolichocephals of northern origin, most of which are represented even now in Switzerland. The short skeletons of Chamblandes are not pigmies. The negroid type of Grimaldi does not represent mere erratic individuals. The brachycephals are of Asiatic (via the Danube) origin. A third part, dealing with man in Switzerland in the bronze and iron ages and in historic times, is to follow.

Schlls (A.) *Die Frage der Zuteilung der spitznackigen dreieckigen Steinbeile zu bestimmten neolithischen Kulturkreisen in Südwest-Deutschland*. (Korr.-Bl. d. D. Ges. f. Anthrop., Brnschw., 1908, xxxix, 92-96, 1 fig.) Discusses the relation of the triangular top-pointed stone-axes to the neolithic culture-areas of S. W. Germany, Grogartach, Rössen, lake-dwelling.

Schmidt (H.) *Der Bronzefund von Canena, Saalkreis*. (Z. f. Ethnol., Berlin, 1909, xli, 125-127, 1 fig.) Brief account of a dagger and a so-called "Schwertstab" of bronze, fine specimens of the oldest Norse bronze age of Montelius, part of a *dépôt* find made years ago at Canena near Halle on the Saal. A detailed account will

appear in the *Prähistorische Zeitschrift*.

Schmidt (R. R.) *Die späteinzeitlichen Kulturepochen in Deutschland und die neuen paläolithischen Funde*. (Korr.-Bl. d. D. Ges. f. Anthrop., Brnschw., 1908, xxxix, 75-82, 15 figs.) Treats specially of the late glacial culture-epochs in Germany in connection with recent paleolithic finds: Beuron in the valley of the upper Danube (late diluvial; weapons, implements, etc., of last paleolithic epoch); Wildscheuer near Steeden a. d. Lahn (important for the Aurignacian age in Germany), etc. According to S., the late Magdalenian is represented by the finds at Hohlefeld, Schmiedchenfels, Propstfelden, Ofnet, Andernach; the middle Magdalenian at Schussenried, Hohlefeld, Andernach; the early Magdalenian at Bockstein, Sirgenstein, Niederram. Hohlefeld near Schelklingen, Wildscheuer; the later Solutrean at Sirgenstein; the older Solutrean at Ofnet, Sirgenstein, Bockstein; the late Aurignacian at Sirgenstein, Ofnet, Wildscheuer; the middle Aurignacian at Sirgenstein, Ofnet, Bockstein, Wildscheuer; the early Aurignacian at Sirgenstein; the late Mousterian at Sirgenstein, Irpfelhöhle. The first evidences of ornamentation appear in the middle Aurignacian,—of the rich glyptic period (beginning in the West in the early Aurignacian) there is no trace. Worthy of note is the Magdalenian bird's head on stag-antler from Andernach. In none of the many caves in the Swiss, Franconian and Swabian Jura, on the Rhine and in central Germany, did the author find any evidence of the "cave art" (wall-drawings, etc.) of the West.

Schneider (L.) *Steinzeitliche Gefässmalerei in Böhmen*. (Z. f. Ethnol., Berlin, 1908, xi, 513-515, 2 figs.) Treats of early neolithic painting on pottery from Bohemia (Sárka valley, Podbaba, Vinor, etc.). The painted pottery of the stone age is not only a pre-Mycenean culture-item, but, according to H. Schmidt, perhaps a contributing factor to the development of Mycenaean vase-painting. Its appearance in neolithic Bohemia is of great interest. The characteristic

ornaments are volutes. Except on the large vessels from the Sárka valley (where white and red were used) the painting was done with black pitch, applied while the vessel was still hot.

Schnippel (E.) *Volkskundliches aus dem Danziger Werder.* (Z. d. V. f. Volksk., Berlin, 1909, xix, 158-170.) Cites from Frau J. Wüst's *Erinnerungen einer alten Werderanerin*, which appeared during 1907-1909 in the Wednesday supplement ("Heimat u. Welt") of the "Danziger Zeitung," items of folk-lore: House (the "older Werderhouse" is West Prussian) and *Vorlaubenhaut*, seasons (harvest-festival, "Bullpulated"), wedding-feasts, titles (of a peculiar sort due, possibly, to Polish influence), etc.

Schönbach (A. E.) *Die Bereitung der Osterkerzen im Mittelalter.* (Ibid., 1908, xviii, 426-428.) Cites from a German MS. of the 15th century in Basel an account of the preparation of Easter tapers. Four ways of making new light are mentioned.

Schuchardt (C.) *Die Bauart unserer germanischen Gräber der Stein- und Bronzezeit.* (Z. f. Ethnol., Berlin, 1908, xi, 813-819.) Based on investigation in 1905 of the 4 megalithic graves at Grundoldendorf in the district of Stade, Dr. Götz's finds at Langenstein, etc. S. thinks that the wooden "round graves" of the bronze period continue the architectonic tradition of the stone "round graves" of the stone age. The "round grave" itself is only an imitation of the old European round huts (cf. those still in use among the Kabyles, Wassukuma, etc., in Africa). The stone pillar on these graves is no phallus, but the top of the old center-post of the hut, still easily recognizable. The stone-chamber graves are clan or family graves. In the discussion Hr. Kossinna differed from S.

— *Grabungen auf der Römerschanze.* (Ibid., 830.) Note on the excavations at the so-called "Römerschanze" (corrupted from "Räuberschanze"),—the old name is "Königschanze," near Potsdam, a fortification of old German origin.

— *Ausgrabungen auf der Römer-*

schanze bei Potsdam 1908. (Ibid., 127-133, 4 figs.) *Résumés* excavations of 1908. The fortification was built and inhabited in the last centuries B. C., and from the old Teutons it passed over, probably by conquest, to the Slavs.

— *Neues von Befestigungen der Oberlausitz.* (Ibid., 1909, xii, 508-510.) Notes on recent investigations of ancient fortifications in Upper Lusatia,—on the Protschenberg (remains of stone wall, with pre-Slavonic pottery fragments), on Mt. Löbau (pre-Slavonic remains only), on the Stromberg near Weissenberg, etc.

Schulze (F.) *Die geographische und ethnographische Bedeutung von Springer's "Meerfahrt" vom Jahre 1509.* (Globus, Braunschwg., 1909, xcvi, 28-32.) Cites from the account of Balthasar Springer's voyage with the Portuguese fleet to India (round Africa) and back in 1505-1506, published in 1509; items of ethnographic and ethnologic interest and value. References to Guanches of the Canaries; Bissagos Is. (trade of Negroes; probably the first reference to Aggr beads, the *Cristallein* of Springer, said to be introduced by the Portuguese); Guinea (Springer's reference to the gold bracelets and anklets of the Negroes indicates the antiquity of the gold-work of Upper Guinea), Algoa's (Springer's description of the natives here includes the notes on the Hottentots and Kafirs; the people seen were probably Hottentots,—this is the first account of the Hottentots in German); Mombasa (traces of African elephant taming), India, etc. This valuable little pamphlet has been reprinted with introduction, etc., by Schulze, as *Balthasar Springer's Indienfahrt 1505/06* (Strassburg, 1902).

Schütte (O.) *Vier Liebesbriefe einer Braunschweigerin vom Jahre 1642 und 1643.* (Z. d. Ver. f. Volksk., Berlin, 1909, xix, 423-426.) Text of 2 love-letters in prose and 2 others in verse, of Anna Rodewolfs of the city of Brunswick in 1642-1643.

Schwalbe (G.) *Entgegnung auf den Artikel von Stolyhwo: Zur Frage der Existenz von Übergangsformen zwischen H. primigenius und H.*

- sapiens. (Globus, Brnschw., 1909, xcv, 29-30.) Schwalbe holds against S., that the Nowosiolka skull does not represent a transitional form between *H. primigenius* and *H. sapiens*, but clearly belongs to the latter.
- Schweithal (M.)** Das belgische Bauernhaus in alter und neuer Zeit. (Mitt. d. Anthrop. Ges. in Wien, 1908, xxxviii, 295-311.) Résumés the chief data in the author's recent monograph on the Belgian peasant house past and present, *Histoire de la maison rurale en Belgique et dans les contrées voisines* (Bruxelles, 1907). The Belgian peasant house belongs generally with the Franco-conian type, one of the three basal forms developing from the common Teutonic one-room house. Only in Liège and Luxemburg does Alemanic influence make itself felt. The oldest pictures of Belgian houses are in the *Veil rentier d'Audenarde*, a MS. of the latter part of the 13th century now in the Brussels Library. The glass window appears towards the end of the 16th century as a new factor and on the manufacture of glass have depended many of the subsequent advances and alterations in the Belgian house. In western Belgium occurs the characteristic *cheminée flamande*. Archaic houses may be found especially in Sluys, near Moll in the province of Antwerp. The influence of city style (Brussels) is easily seen in Brabant.
- Servia and Montenegro.** (Nat. Geogr. Mag., Wash., 1908, xix, 774-789, 3 fgs., 12 pl.) The illustrations treat of Servian, Bosnian, Montenegrin, and Gypsy types, street-scenes, etc.
- Sharp (C. J.)** Some characteristics of English folk-music. (Folk-Lore, Lond., 1908, xix, 132-152.) English folk-music is characterized by being in large part cast in *modes* (a *prima facie* evidence of its folk-origin), or *natural scales*; by having *irregular time and rhythm*; by possessing the *non-harmonic passing note*; and by having *one note only to each syllable of the words*. Many examples are given.
- Sidgwick (F.)** "The Bitter Withy" ballad. (Ibid., 190-200.) Gives several new texts with comparative notes.
- Simon (A.)** Nochmals das polnische Original des Vollesliedes "An der Weichsel gegen Osten." (Z. d. Ver. f. Volksk., Berlin, 1909, xix, 421-423.) Cites 4 versions of the Polish song, "Tam na blonin" by F. Kowalski (1799-1862), which has become a folk-song. See Bartolomäus (R.).
- Siret (L.)** Les Cassitérides et l'empire colonial des Phéniciens. (L'Anthropologie, Paris, 1909, xx, 129-166, 283-328, 69 fgs.) Second and third parts of discussion of the Cassiterides in relation to the Phœnician empire. S. seeks to identify the Cassiterides with the Morbrax Is., and to find traces in Armorica of the Phœnician commerce in tin, by the medium of Iberia. The palm and teal symbols, cuttlefish, double-axe, etc., are treated.
- Smith (G. C. M.)** "Straw-bear Tuesday." (Folk-Lore, Lond., 1909, xix, 202-203, 2 pl.) Note on the leading of "straw-bears" (men or boys) still surviving at Whittlesey, Cambridgeshire (Jan. 12, 1909).
- Smith (H. M.)** Brittany, the land of the sardine. (Nat. Geogr. Mag., Wash., 1909, xx, 541-573, 11 fgs., 12 pl.) Contains notes on Bretons (temperament, family life and customs, houses, position of women, industries of farms, fishing, churches, markets, menhirs of Concanean and Carnac, pardons, etc.). The illustrations (house and interior, women grain-threshers, sea-weed gatherers, country-carts, sardine-sorting, marketing, menhir, pardons, peasant types) are of ethnologic value.
- Smith (W. G.)** Paleolithic implement found near the British Museum. (Man, Lond., 1909, ix, 88, 1 fg.) Describes and figures a fine flint tool discovered in 1902 while a drain was being repaired in Woburn place. It "agrees well with the famous Gray's Inn implement found in the 17th century."
- Dewlish "eolitha" and the *Elephas meridionalis*. (Ibid., 113-114, 1 pl.) Argues against the acceptance of the view that the "eolitha" found at Dewlish in Dorset are of pliocene date and contemporary with the *E. meridionalis*.
- "Eolitha." (Ibid., 1908, viii, 49-53, 1 pl., 4 fgs.) Treats of early

- searches on the plateaux of the East of England (Prigg), the Dunstable plateau, the contorted drift, "ooliths," "ooliths" on the Dunstable plateau. According to S., nine out of ten "ooliths" are "natural stones not intentionally touched by man," while "the minority are of human origin, but of well-known paleolithic or neolithic forms." Also, "there is no evidence that any of the minor paleolithic forms, often termed 'ooliths,' are as old as the boulder clay."
- Sökeland (H.)** Dunkelfarbige Marienbilder. (Z. d. V. f. Volksk., Berlin, 1908, xviii, 281-295, 9 figs.) Treats of figures, etc., of the Virgin Mary, in which she is represented with a black or dark-brown skin. These occur in various parts of Catholic Europe (in Russia: Chnestochov, Moscow, Kasan; France: Puy-de-Dôme, Rodez, Toulouse, etc.; Germany and Switzerland: Einsiedeln, Alt-Öttingen, Breslau, Cologne, Würzburg. This "black Madonna and Child" is thus not rare. The oldest figures of the Madonna in the catacombs of Rome show no traces of black. Contrary to Pommerol (*Bull. Soc. d'Anthrop.*, de Paris, 1901), who attributes the "black Madonnas" to heathen influences upon early Christianity, S. holds that their origin is "due to the influence of the peculiar painting of the monks of Mt Athos." The character of the painting was such as readily to turn black or nearly so from the smoke of long years of altarpieces. Such pictures were then copied in black. Citations of the methods of the monks are given from G. Schafer's *Handbuch der Malerei vom Berge Athos* (Trier, 1855), a German version of Didron's *Manuel d'iconographie chrétienne* (1845).
- Soltan (W.)** Die Entstehung der Romuluslegende. (A. f. Religsw. Lpzg., 1909, xii, 101-125.) Author seeks to prove that the legend of the founding of Rome by Romulus is not a Roman folk-story, but was derived from the Tyro of Sophocles through the *Alimonia* of Naevius, and the later efforts of Fabius, the Roman, and Diokles, the Greek. The name Rome itself is of Tuscan origin (*Romax*). The she-wolf with the children is of Campanian, or Helenistic provenance,—the idea was copied by the Romans from Campanian coins. The she-wolf in the Luperical is older than the twins. The Romulus story has been fancifully developed on the basis of simple Greek mythological elements and a local Roman Sage.
- Sonne, Mond und Sterne im Volksglauben der Kaschuben am Weitzer, Kaschubel.** (Globus, Brnischwk., 1908, xciii, 145-146.) Résumé article in the *Mitt. d. V. f. Kaschub. Volksk.* (1908) by J. Gulgowski on the sun, moon and stars in Kashubian folk-lore. The moon is the dwelling-place of Adam and Eve; the sun is the seat of the throne of Jesus Christ; the Milky Way is the guide of the birds to foreign lands.
- de Sousa (T. M.)** Costumes e tradições agrícolas do Minho. II. Regimen pastoral dos povos da Serra do Gerês. (Portugalia, Porto, 1908, ii, 646-652.) Notes on pastoral life and activities in the Gerês mountains,—history, special words in use (p. 650), contracts, common oil-presses, water-rights, plowing, etc.
- Spiegelhalter (O.)** Die Glasindustrie auf dem Schwarzwald. (Z. d. V. f. Volksk., Berlin, 1908, xviii, 267-277, 7 figs.) Treats of the glass-making industry in the Black Forest, past and present,—"factories," varieties of glass bottles and vessels made, inscriptions, "moon-glasses," workmen, salesmen, etc.
- Sprecher (F.) und Stoecklin (Adele).** Hausinschriften aus dem Schanfigg, Graubünden. (Arch. suisses d. Trad. Pop., Bâle, 1909, iii, 140-145.) Gives 28 house-inscriptions, dating from the beginning of the 18th century to the last quarter of the 19th.
- Stiefel (A. L.)** Sprichwörteranekdoten aus Franken. (Z. d. V. f. Volksk., Berlin, 1908, xviii, 446-449.) Gives 7 anecdotes from the valley of the Saale in Franconia, told to illustrate the meaning of certain proverbial expressions.
- Stückelberg (E. A.)** Bekleidung der Andachtsbilder. (Schw. Arch. f. Volksk., Basel, 1909, xiii, 191-195, 2 figs., 2 pl.) Notes on the clothing of images for worship (ancient Egypt, Middle Ages, etc.), particularly in modern Switzerland, the

Virgins of Einsiedeln, Marienstein, etc.

— S. Expedit. (Ibid., 195-199, 1 fig.) Treats of the name, attributes, worship, etc., of St Expeditus ("prepared," i. e., for martyrdom), whose adoration (he is not the subject of an early Christian or even medieval cult) in Italy and France (Lourdes, Marseilles, Pornichet) does not go back beyond the 18th century.

Teixeira (T.) *Ethnographia Transmontana. Agricultura. Concelho de Moncorvo.* (Portugalia, Porto, 1908, 11, 627-638.) Treats of agriculture in the district of Moncorvo: Flowing and cultivation, agricultural implements (trado, juro, carro, grade, trilho), harvesting, weather lore (20 proverbs and sayings, p. 632); arboriculture (vine and olive); apiculture, sericulture, cattle, etc.

Tetzner (F.) *Zur litauischen Sprichwörterpoesie.* (Globus Brnschw., 1908, xciii, 63-65.) Gives the German text of some 200 old and new Lithuanian proverbs, with interpretations when the sense is not clear. These proverbs exhibit the poetry and folk-sense of the Lithuanians (they were first called to the attention of the literary and scientific world by Schleicher in 1857, in his *Litauische Märchen, Sprichwörter, Rätsel und Lieder*).

— *Philippinische Legenden.* (Ibid., 1908, xciv, 117-119, 240-243.) German text of 10 legends of the Philippones, a Slavonic people of East Prussia: Creation of the world, The war of the angels, The fall of man, How the sin of cutting of the beard came into the world, The picture made by no hand, Origin of the *Hospodi pomila* (prayer), Erection of the holy cross, Mary Magdalene and St. Nicholas, The archangel Michael and his conflict with Satan, St. George. The source is the Mss. of Martin Geras (d. 1895), teacher and clergyman, who collected much folk-lore material concerning his people.

— *Bürgerliche Verhältnisse der ostpreussischen Philipponen zur Zeit ihrer Einwanderung.* (Ibid., 325-329, 351-354.) Cites from the Mss. of Geras details concerning the social and religious life of the Philip-

pones at the time of their immigration: Objection to military service and cutting the beard; objection to certain forms of oath; wills and inheritance, police, family-names; prohibition of tobacco, drugs, physicians; foods and drinks; clothing; dwellings and furniture, etc.

— *Erzbergische Hütereime.* (Ibid., 1909, xcv, 30-31.) Cites from E. John's *Aberglaube, Sitte und Brauch im sächsischen Erzgebirge* (Annaberg, 1909) and from his own experience specimens of rhymes of the herdsmen and shepherds of the Erzgebirge, used in driving cattle, etc.

— *Wurzeltalismane.* (Ibid., 126-127.) Notes on root-talismans (snake-root among Sioux Indians, Japanese, etc.; Europe in 16th century). Cites letter of 1550 A. D. relating to a root-talisman for stopping the flow of blood, used by princes of that day.

Teutsch (J.) *Neue Funde aus Siebenbürgen.* (Stzbg. d. Anthropol. Ges. in Wien, 1907-1908, 34-36, 2 figs.) Notes on finds from Mühlbach, Deutsch-Pian (pottery, neolithic axes), Kaposna (Roman coins, beads), Hatzeg (bronze figure of Dacian origin, a copy of Greek), Schässburg (pottery), Sächsisch-Nadesch (bronze needle and spear-point), Eröd (a pottery-factory of prehistoric times), etc.

Thielemann (R.) *Ein Bärmutter-Segen.* (Hess. Bl. f. Volksk., Lpzg., 1908, viii, 135-137.) Discusses an incantation for pregnancy (from a Hamburg newspaper of 1908), part of which goes back to the 11th century.

Thilenius (G.) *Tätigkeit der anthropologischen Kommission.* (Korr.-Bl. d. D. Ges. f. Anthropol., Brnschw., 1908, xxxix, 92.) Notes that 150 hospitals in the German Empire have declared their readiness to furnish material for anthropological investigation. The authorities in Prussia, Bavaria, Württemberg and Saxony, agree to permit such investigations among soldiers, if no expense be incurred.

Thompson (M. S.) *Notes from Greece and the Egean.* (Folk-Lore, Lond., 1908, xix, 460-70, 1 pl.) Evil-eye charms of various sorts, etc.

- Tocher (J. F.)** Pigmentation survey of school children in Scotland. (*Biometrika*, Cambridge, Engld., 1908, vi, 230-235, 72 tables, 19 diagrams, 78 maps; also Appendix, 1-67, 16 tables, etc.) Gives results of study of 502,255 children (boys 251,766, girls 244,389) from 2288 schools in various parts of Scotland,—records of name, age, sex, fraternal and cousin relationships, color characters, were taken.
- Trojanović (S.)** Eine Ahnung von dem Befruchtungsvorgange bei den Pflanzen im serbischen Volke. (*Globus*, Brnschw., 1908, xciii, 382.) Note on the *Zenitz krastovec*, *bundev ili lubenice*, or "marriage of the cucumbers, pumpkins or melons," as the Servian folk term the process of scattering over these plants, when they begin to blossom, the meadow-clover then also in bloom.
- de V. (J.)** Materiaes para o inventario archeologico do concelho de Baião. (Portugalia, Porto, 1908, ii, 669-672.) Notes on the archeological remains (with traces of Roman influence) at Castro de Porto Manso, Castro do Crinto, Castro de Pousada, O Castello, Castro de Mantel, O Castro, in the district of Baião; also on the dolmen of Monte da Abo-horeira, etc.
- Vauvillé (O.)** Sépulture néolithique de Braine, Aisne. (*Bull. Soc. d'Anthrop.*, de Paris, 1908, v^e s., ix, 158-162, 1 fig.) Brief account of neolithic burial place discovered in 1907 at Braine in the department of Aisne and the remains there found (4 skeletons, polished stone axe, several earthen vessels, etc.). The grave seems to have been neolithic. See also p. 275.
- Verworn (M.)** Keltische Kunst. (*Korr.-Bl. d. D. Ges. f. Anthrop.*, Brnschw., 1909, xi, 21, 12 figs.) Treats of the main characteristics of Celtic figurative and ornamental art (triquetrum and sun-symbol, bow-spiral, etc.).
- Virchow (H.)** Neolithische Wohnplätze bei Monsheim in der Pfalz. (*Z. f. Ethnol.*, Berlin, 1908, xi, 568.) Notes that the Rössen epoch preceded that of the spiral pottery.
- Vire (A.)** Recherches de préhistoire dans le Lot. III. Abri sous roche de la "Rivière de Tulle" près de Lacave, Canton de Souillac. (*L'Anthropologie*, Paris, 1909, xx, 273-282.) Treats of a Magdalenian rock-shelter near Lacave (Souillac),—situation and character, implements, etc., of flint and stone (scrapers, borers, nuclei, pounders, polishers, pebbles, coloring matters, etc.), bone and horn (arrow and spear heads, harpoons, etc.) ornaments and works of art (necklaces of shells and beads, carved bones—human or simian figures), fauna, etc.
- Wagner (M. L.)** Das Gennargentu-Gebiet. Ein Reischild aus Sardinien. (*Globus*, Brnschw., 1908, xciii, 105-108, 7 figs.) Account of visit in 1905 to the Gennargentu region of Sardinia, with notes on people, etc. Houses, chests and other articles of nut-wood, women's costume of Arizto, Busachi, etc., wagons with one-piece wheels and ancient methods of yoking oxen, plows of the style of Virgil's time, threshing, etc., equally antique.
- Das Nuorese. (*Ibid.*, 245-249, 266-269, 9 figs.) Brief description of the interesting and picturesque region of Nuoro in the heart of Sardinia. People (the Nuores mountaineer despises the plainman), dress, songs (thousands of little love-songs exist; singers are often young girls; old "death lament,"—blood revenge not yet extinct; local song-contests), houses and domestic life; "houses of the fairies"—caves of which some contain relics of prehistoric man; the "dancing stone" of Nuoro; language (the speech of Bitti is the oldest and phonetically the most conservative of all Sardinian dialects, and it has preserved the old Vulgar Latin pronunciation of many words unchanged). The viticulture of Oliena, the *wuraghe* and *domos de jénas* at Onniferi, etc., are also described.
- Wasylewski (S.)** Wsprawie wampiryzmu. (Lud, Lwów, 1907, xiii, 291-298.) Discusses three Polish demons, *upiór*, *amora*, *strzyga*, none of which is properly a vampire,—belief in the vampire having been introduced into folk-lore through literary sources.
- Webinger (A.)** Tracht und Speise in

öberösterreichischen Volkalliedern. (Z. d. Ver. f. Volksk., Berlin, 1909, xix, 96-101.) Treats (with dialect texts of 4 songs and numerous explanatory notes) of dress and food in upper Austrian folk-songs. One ridicules the dress of a vain young woman, another treats of the dress of young men and women and town-ladies, yet another compares the food of peasants and lords.

Wehrhan (K.) Wachsmotive aus Kiedrich im Rheingau. (Ibid., 190-201.) Lists 18 votive offerings of wax (human beings 4—heart, eye, ear, teeth, arm, hand, leg, 1 each; horse, cow, goat, sheep, pig, 1 each) from Kiedrich, whose church is dedicated to St. Valentine and visited by pilgrims from both banks of the Rhine. These offerings are cast in molds and not made by hand.

— Rheinische Wachsmotive und Weibgaben. (Korr.-Bl. d. D. Ges. f. Anthrop., Brunschwg., 1908, xxxix, 141-143, 2 pl.) Treats of votive objects in wax and other material (human body, male and female faces, breasts, eye, ear, heart, arm, hand, leg, foot, tooth "wax-beast," etc.) from the shrine of Sayn across the Rhine from Coblenz, dating back to 1201 A. D. In 1509 Sayn had 22,000 pilgrims, and has still many. Their use is not entirely confined to Catholics. They are sold quite cheap in Coblenz.

Weinitz (F.) Die Schwarzwälder Sammlung des Herrn Oskar Spiegelhalter auf der Villinger Ausstellung 1907. (Z. d. V. f. Volksk., Berlin, 1908, xviii, 262-267, 2 figs.) Brief account of the Spiegelhalter Black-fuest collection at the Villing exhibition of 1907, particularly the "clock-maker's room" and the "peasant's room," with their content.

Weissenberg (S.) Das neugeborene Kind bei den südrussischen Juden. (Glotus, Brunschwg., 1908, xciii, 85-88.) Describes the treatment of the new-born child among the South-Russian Jews. Defense against spirits, bathing, weaning, birth-festival (boy 8-days feast; girl no special festivities), circumcision (on 8th day, even if Sabbath; operation con-

sists of 3 acts; still-born children and those dying during first week of life are circumcised), name-giving, redemption ceremony.

Westermarck (E.) The killing of the divine king. (Man, 1908, viii, 22-24.) Argues that "the new king is supposed to inherit, not the predecessor's soul, but his divinity or holiness, which is looked upon in the light of a mysterious entity, temporarily seated in the ruling sovereign, but separable from him and transferable to another individual." Cites certain beliefs prevalent among the Moors, etc.

Whistler (C. W.) Sundry notes from West Somerset and Devon. (Folk-Lore, Lond., 1908, xix, 88-91.) Treats of "hammer and nail" charm, split ash-tree, imprisonment of shrew-mouse in hole in tree (cure for infant paralysis), slow-worm, potato-cure for rheumatism, hemorrhage charm, "Skimmington riding," treatment of wife-beaters, etc.

— Local traditions of the Quantocks. (Ibid., 31-33, map.) Treats of effect of Saxon conquest, traditions as to Roman camp, dragons, conflicts with Danes, ghosts, "hunting Judas," the "wild hunt," the Devil and the smith, appearances of the Devil, pixy legends, etc., in this district of West Somerset.

Wiaremsky (S.) La coloration des cheveux, des yeux, et de la peau chez les Serbes de la Serbie. (L'Anthropologie, Paris, 1909, xx, 353-372, 2 maps.) Treats of color of hair, eyes and skin in Servians of Servia from 10% to 18% years (and over). The dark, light and mixed types form, respectively, 56%, 17% and 25% of the whole, while with the Russians the light type is 42%, and with the Bulgarians the dark type 63%. The Servians present the "purest" of the Slavonic types (the basal type is one with dark chestnut hair and brown eyes; with this has mingled another type with blond hair and blue eyes, less well developed physically and less adapted to environment).

Wide (S.) Grabesspende und Totenschlange. (A. f. Religsw., Lpzg., 1909, xii, 221-223, 1 pl., 1 fig.) Describes a small marble altar from

Knosos in Crete (now in the Museum of Herakleion) on which is depicted the dead man climbing up the altar in the form of a serpent and feeding from the vessel upon the offerings left there. Other plastic representations of the serpent on ancient Greek vessels are figured. The plastic and also the painted serpents on Dipylon vases may have had a like signification.

ADPOIBIAIOANATOI. (Ibid., 224-233.) Discusses, in connection with the recent essay of S. Reinach on this topic, an inscription from a church at Lindos (Rhodes) and another from Sunion in Attica. W. sees Jewish rather than Orphic influence in the reprobation of abortion in Greco-Roman culture. The Xanthian inscription, e. g., contains sacred and ethical words and expressions that recur again and again in the Septuagint.

Wiegand (F.) Neue Funde paläolithischer Artefakte. 2. Aus dem Diluvium am Grossen Fallstein. (Z. f. Ethnol., Berlin, 1908, XI, 543-547, 3 figs.) Treats of the geological relations of the calcareous tufa of Gr. Fallstein (animal remains, etc.) and describes two artificially shaped flints therefrom, indicating the presence of man at the northern edge of the Harz at the period of the *löss*.

Wilke (Dr) Vorgeschichtliche Beziehungen zwischen Kaukasus und dem unteren Donaugebiete; ein Beitrag zum Arierproblem. (Mitt. d. Anthrop. Ges. in Wien, 1908, XXXVIII, 136-171; 120 figs.) From consideration of prehistoric pottery (forms, ornamentation), needles, bracelets, spirals, sickles, bronze hands, "hand figures," skull deformation, pile-dwellings, etc., Dr W. concludes that "soon after the middle of the second millennium B. C. Aryan peoples from the region of the lower Danube north of the Black Sea, advanced to the Caucasus, crossing it somewhat later, and during the last quarter of the millennium spread out over all Transcaucasia as far as the Araxes. The art of the Caucasus that resembles the art of the Danube region is thus of European origin.

Neolithische Keramik und Arier-

problem. (A. f. Anthrop., Brunschwig, 1909, N. F., VII, 298-344, 106 figs.) Detailed discussion of the pottery of the neolithic age in relation to the Aryan problem. The old "Winkelband" pottery (8 chief varieties of the Hinkelstein type), the later "Winkelband" pottery of the Rössen, Altsheim and Nierstein types, and the "spiral-meander" pottery, the bone-amphora, the Bernburg type, the "string" pottery, the bell-goblets, etc., their form, ornamentation, etc., are considered. Dr Wilke favors the "wave theory" of Aryan (linguistic) relationship set up by J. Schmidt,—with this, according to him, the culture-areas of the age of the "spiral-meander" pottery correspond pretty well. A similar "wave-theory" for the culture areas of the older neolithic is given. Dr W.'s theory that "the formation of definite culture-centers during the neolithic period of Central Europe goes hand in hand with the first situation of the Indo-Germanic languages (Schmidt's 'wave theory')," would give a time-measure for the beginning of these differentiations in speech, their order, etc.

Wolff (G.) Neolithische Brandgräber aus der südlichen Wetterau. (Korr.-Bl. d. D. Ges. f. Anthrop., Brunschwig, 1908, XXXIX, 72-74.) Gives brief account of the investigations of 1907-1908, in which 36 neolithic cremation graves, with finds of flints, bones, pottery fragments, ornamented stones (also chains of such), etc., were discovered, in the south Wetterau region.—Butterstadt, Marköbel, Kilianstadt, etc.

Wolkenhauer (A.) Seb. Münster's verschollene Karte von Deutschland von 1525. (Globus, Brunschwig, 1908, XCIV, 1-6, 1 pl.) Reproduces and describes a copy of the long-disappeared map of Germany by Sebastian Münster in 1525, now in the National Museum at Nürnberg. This is the first map of Germany in which the course of the Rhine is indicated with any sort of accuracy. The map appeared in his *Instrument der Sonnen* (1525).

Woodward (A. M.) A prehistoric vase in the Museum of Spalato. (Ann. Arch. and Anthropol., Liverpool,

1909, II, 27-32, 1 pl.) Treats of a neolithic vase of a kind closely resembling those of the early settlements in Bosnia (Ripač, Jezerine, etc.) found in 1906 at Gardun, inland from Spalato close to the foot of the main ridge of the Dinaric Alps. Comparison is made with the Jezerine finds.

Wright (A. R.) and Lovett (E.) Specimens of modern mascots and ancient amulets of the British Isles. (Folk-Lore, Lond., 1908, XIX, 288-303, 2 pl.) Treats of origin of term *mascot*, books on mascots and amulets, motor mascots (policemen, gendarmes, representations of St. Christopher, horse-shoes, etc.), commercial (modern made-up) amulets ("lucky jade" and other luck ornaments), imported "lucky charms" ("Kaffir bangles," "Japanese mascots"), imported foreign amulets and imitations of foreign amulets, amulets of British origin (bone amulets, rabbit's foot, horseshoe charms, ring charms, shell and stone charms, fossils, neolithic celts, "thunderbolts," arrow-heads, string charms, vegetable charms, etc.), ornaments which once were amulets (brass horse charms, shell necklaces), amulets in disguise, etc.

Wünsch (R.) Die Zauberinnen des Theokrit. (Hess. Bl. f. Volksw., Lpzg., 1909, VII, 111-137.) Treats of the enchantresses of Theocritus. The earliest poet to represent magic for its own sake was Sophron of Syracuse in the time of the Peloponnesian war,—by him the *mime* was introduced into literature. The *Mimna* of Sophron was the stimulus for Theocritus's *Pharmakutroi*, together with the Attic comedy.

Deisidaimoniaka. (A. f. Religsw., Lpzg., 1909, XII, 1-45, 7 figs.) Discusses the incantation in the *Nekyla* of Homer (the interpolations reflect the older national Greek magic and the later international); an ancient bronze ring (now in the Royal Museum at Berlin) with figure of Anubis and magic inscription; *Ephydrias* (an amulet-gem with long-eared animal-headed god, *Seib-Ephydrias*); silver-tablets from Amisao, with incantation inscription; *Aion* (carved stone with figure of *Aion* or

Kronos); some unpublished imprecatory tablets, etc.

Zaborowski (S.) Les roux en Hollande. (R. de l'Éc. d'Anthrop. de Paris, 1908, XVIII, 358-360.) Review and critique of article on the distribution of red-haired people in Holland, by Prof L. Bolk in the *Zeitschrift für Morphologie und Anthropologie* for 1907.

— La Sicile. L'Italie préhistorique jusqu'à la pénétration aryenne. Le peuple de Remedello-Sotto. (Ibid., 393-406.) Sketches the pre-Aryan history of Sicily, southern Italy, etc. Outside of little "centers of population," there was, neither in Sicily nor in Italy, "civilization" before the eneolithic period, when direct relations with the eastern Mediterranean occur. Relations with central Europe came later. The Aryanization of the Italian islands is comparatively recent. In Sicily it was not complete before the Christian era; in Sardinia it occurred afterward; the Greeks were perhaps the first Aryan people of S. Italy. The *Irramare* people were followed by the Umbrians and preceded by another Aryan people, represented by the finds of Remedello-Sotto in Brescia, and of Gallic race, having come down from the primitive home of that stock in the upper Rhine-Danube valleys. They were the introducers of copper into Italy.

— La moisson en Sicile. (Ibid., 1909, XIX, 38-40.) Notes on harvest-customs (reaping, threshing, etc.) Every two hours there is a period of resting and eating (the names of all are given). Improvised farces and verse-making come at the end.

— Dernière phase de la nationalité italienne. (Ibid., 213-223.) Points out the rôles of Christianity, the barbarians of the north, and the northern Italian and Tuscan cities, in the development and achievement of Italian nationality. Modern Italy was constituted by reason of the example of Florence in making citizens of her *bourgeoisie*. With Dante an Italian language arose that was destined to become national. Like ancient Rome, modern Italy originated in Etruria.

— Les gaulois de Munsingen. Pré-

- sensation d'un travail de M. Victor Gross. (Bull. Soc. d'Anthrop. de Paris, 1908, v^e s., ix, 743-745.) Résumés V. Gross's monograph on the human crania from the necropolis of Munsingen in the Canton of Berne, investigated in 1906.
- Zahler (H.)** Milch, Käse und Ziger im Ober Simmental, Kt. Bern. (Arch. suisses d. Trad. Pop., Bâle, 1909, xiii, 1-31, 1 pl., 20 figs.) Treats of milk (milking and apparatus for holding, carrying, etc.), butter (churning, apparatus, receptacles, etc.), cheese (three varieties, besides cheese from goat's milk; apparatus and processes of manufacture), in the Upper Simmental in the Canton of Bern. Also (pp. 23-30) the method of keeping tally by means of the so-called "Beilen,"—pieces of fir-wood. See Gabbud (M.).
- Zanolli (V.)** Studi di antropologia Bolognese. (A. d. Accad. Scient. Ven.-Trent.-Istr., Padova, 1908, n. s., v, 44-89.) Pt. I. of detailed study with measurements of 25 male and 25 female modern Bolognese skeletons (skull, long bones, pelvis, etc.) belonging to the Anthropological Museum of the University of Padua. The cranial capacity of males ranges 1360-1735 cc., females 1100-1590 cc.; cephalic index of males 73.8-93.9, females 76.1-88.9. The Bolognese skull is "decidedly brachycephalic, presenting in both sexes few characteristic varieties (Török) of type." In Sergian terms there are 21 sphenoid, 3 spheroid, 10 platycephalic, 8 ellipsoid, 1 pentagonoid, 6 ovoid and 1 beloid crania.
- Zindel-Kressig (A.)** Schwänke und Schildbürgergeschichten aus dem Sarganserland. Zweite Reihe. (Schw. Arch. f. Volksk., Basel, 1909, 203-206.) Cites 16 items of jests and folk-wit.
- Zoder (R.)** Eine Methode zur lexikalischen Anordnung von Ländlern. (Z. d. V. f. Volksk., Berlin, 1908, xviii, 307-311.) Advocates the melody method of lexical arrangement of *Ländler* and perhaps other folk-melodies (dances), as applied to Z.'s collection of 3,600 numbers.
- Die Melodien zu der Ballade von der Nonne. (Ibid., 394-411.) Detailed discussion of the melodies of the German folk-song, "Ich stand auf einem Berge" (45 German and 10 foreign melodies are listed; also 3 new versions of the song).
- Zur Anthropologie Schottlands.** (Globus, Brnachwg., 1908, xciii, 352.) Résumés briefly data in article by J. Gray in the *Journ. R. Anthropol. Inst.*, xxxvii, on the color of hair and eyes of Scottish children.

AFRICA

- Antze (G.)** Fetische und Zaubermittel aus Togo, I. (Jhrb. d. Stadt. Mus. f. Völkerk. zu Leipzig, 1907, ii [1908], 26-56, 83 figs.) First part of description and discussion of fetishes and "magic" objects from Togo, in the Leipzig Ethnological Museum: *Fofie* (8 persons), *Nayo* (wooden stool fetish). The first originally belonged to Djaki, near Komassi, on the Gold Coast; the second is from Peréu, west of Bismarckburg. The numerous amulets and ornaments, swords, etc., of the fetish-priests are figured and described. Connected with *Nayo* is a poison-ordeal.
- Archibald (J. F. J.)** In civilized French Africa. (Nat. Geogr. Mag., Wash., 1909, xx, 303-311, 1 fig., 6 pl.) Illustrations (house-interior, horse-men, Bedouin girl, etc.) are of ethnological interest.
- Bargy (M.)** Notes ethnographiques sur les Birifons. (L'Anthropologie, Paris, 1909, xx, 167-173.) Treats of habitat, tribal groups, physique, food, dress and ornament, dancing and music, religion ("a mass of gross superstitions," according to Dr B.), shamans and fetishism (representation of fetish by statuette rare), marriage, birth, death (no ceremonies for two former; but death and burial rites), social life, houses, language (comparative vocabulary of Birifon and Lobi). The Birifons differ from the Lobi more in language than in anything else.
- Bel (A.)** La population musulmane de Tlemcen. (R. d. Et. Ethnogr. et Sociol., Paris, 1908, ii, 417-447, 9 pl.) Treats of material life,—food, clothing and ornament, houses and furniture, sports, games and dances (numerous children's games cited), hygiene (Moorish baths common), in-

lectual life,—language (spoken and literary Arabic) and schools (none for girls), plastic and industrial arts (low state), expressive arts (song and music esteemed; folk-literature), family and society (monogamy with few exceptions), etc.

- Bieber (F. J.)** *Die Geistige Kultur der Kaffitscho.* (Ibid., 1909, III, 37-63.) Treats of religion (native *hekketino* or folk-belief, ideas of God; no creation legend; priests, formalities of religion, temples, sacrifices, prayers, dancing, festivals, other-world ideas, worship of spirits; Christianity; labors of Roman Catholic Church; Ethiopian church (Islam), mythology and superstition ("evil eye," were-wolf, hero-tales, local legends and animal fables), knowledge (foreign languages, no writing or books, geography, no schools, proverbs numerous), medicine ("medicine men" now few, materia medica, diseases and treatment, list of disease-names), art (musical instruments, songs numerous), play and amusement (toys, dances, etc.), festivals (New Year's family feasts), calendar (divisions of day, month and day names), etc.

— *Das staatliche Leben der Kaffitscho.* (Globus, Brunschwg., 1908, xciii, 165-169, 186-189, 3 fgs.) Treats of former government and political-social life during the Kaffitscho, from material gathered by the author in 1905.—Kaffa ceased to be independent after the Abyssinian conquest in 1897. Form of government and officials (King and council, subordinate kings); title, dress, residence, court, family and servants of monarchs; death, succession, burial, royal graves; coronation; officials and their duties; the Abyssinian rule, etc.

— *Das Heerwesen der Kaffitscho.* (Ibid., 1909, xcv, 215-220, 10 fgs.) Treats of warfare, weapons, etc., among the Kaffitscho: army, declaration of war, soldiers (men upwards of 80 and boys under 8 left at home), spear-men and bow-men, shield, dagger, arrows, war-cloak, war-feather order of march and battle, etc.—native terms are all cited.

Blackman (A. M.) The fox as a birth-amulet. (Man, Lond., 1909, ix, 9-10, 4 fgs.) Cites from Nubia two

instances (suspension of entire dead fox over door of forecourt of house; 3 dead foxes at full length on flat roof above door) of use of fox as amulet. The modern Nubians seem to use the fox as an amulet for protecting women in pregnancy and child-birth. The ancient Egyptian determinative of *mfy* ("to bear," "women"), contains *mf*, a sign made up of three foxskins.

Bloch (A.) A propos de la communication de M. Manouvrier sur les crânes égyptiens de M. de Morgan. (Bull. Soc. d'Anthrop. de Paris, v° s., ix, 1908, 655-657.) Argues for the negroid (African) origin of the ancient Egyptians.

— Quelques remarques d'anthropologie et d'ethnogenie sur les Gallas du Jardin d'Acclimatation. (Ibid., ix, 681-687, 3 fgs.) Notes on the physical characters of the Gallas (there are some 40, of which 6 are women and 7 children) now at the Jardin d'Acclimatation in Paris. The men are tall and the women above the average; skin dark, but not "negro-black,"—sometimes with a deep brown tint, chocolate or bronzed color; the dark color is already apparent in child of 3 to 12 years; black hair; forehead high and straight, or "bombé"; nose somewhat Caucasian; mouth longer and lips thicker than those of whites; teeth very white and large, seldom carious; calf of leg little developed. Dr B. concludes that the Gallas are a people of unmixed negro race, with the negroid characters attenuated by evolution and not by *métissage*.

Boas (F.) Industries of the African Negroes. (So. Wknn., Hampton, Va., 1909, xxxviii, 217-229, 10 fgs.) Treats of native African products such as basketry from the region north of I. Tanganyika, decorated mats from the country about the mouth of the Congo, pottery of the Bali near the mouth of the Niger, wood-carving of the Congo country, etc., metal-work (art of making iron may have been a Negro invention), etc. Dr B. thinks "the impression which we gain from the failure of the American Negro to manifest himself in any of these directions is due not to native inability but to the de-

- grading conditions under which he has been placed for generations."
- Boehmer (J.)** Zum Problem der neu-arabischen Sprache. (Anthropos, Wien, 1909, IV, 170-177.) According to Dr B. there are dozens or hundreds of Arabic dialects spoken from Mesopotamia to Morocco, from the Mediterranean to the Equator, but "no common-Arabic language." There is only *one* Arabic language for writing and literature, that of the Koran. This question of a common Arabic tongue cannot be decided by politics. A speech-hero (like Luther, e. g.) must arise; a man of genius, a religious genius, and the language he chooses, literary Arabic, or some dialect, will become the common Arabic speech.
- Bosson (Mrs. G. C., Jr.)** Biskra, the Ziban Queen. (Nat. Geogr. Mag., Wash., 1908, XIX, 563-593, 1 fig., 23 pl., map.) Gives account of the oasis of Biskra and its villages, people, the shrine-town of Sidi-Okba, etc. The illustrations treat of caravans, village scenes, ploughing, street barber-shop, bread-seller, dance girls and *oweled-naïls*, market-place, playing marbles, teacher, date-gathering, Bedouin encampment, Mussulman devotions, etc.
- Bradley (C. B.)** The oldest known writing in Siamese. The inscription of Phra Ram Khamhaeng of Sukhothai, 1293 A. D. (J. Siam Soc., Bangkok, 1909, VI, Pt. I, 64, 1 pl.) Facsimile, transliteration into modern Siamese characters, translation into English, word-list, historical and explanatory notes, with discussion of form, style, etc. The inscription contains 1500 words of which 404 are different; and of these 317 are "Thāi, native or effectively naturalized, 63 of Indian origin, 13 of Khāmén origin, and 11 proper names not Thāi." The Thāi element is thus 83% of the different words, but larger if all words are counted.
- Brisley (T.)** Notes on the Baoulé tribe. (J. Afric. Soc., Lond., 1909, VIII, 296-302.) Treats of history (on Ivory Coast, part of great Agni-Ashanti family), customs (order of succession same as with Fanti, order of precedence, marriage, adultery, death and burial, new-moon dances and songs), industries, religion (each village has fetish-temple; supreme spiritual being called *Murwa*), language (known as Agni; brief comparative vocabularies of Fanti, Ashanti and Agni, from Delafosse).
- Buchner (M.)** Benin und die Portugiesen. (Z. f. Ethnol., Berlin, 1908, XI, 981-992, 4 figs.) Discusses the rôle of the Portuguese in Benin with special reference to famous "Benin brasses," discovered in 1897. Portuguese influence in W. Africa includes not merely items of European origin, but also factors from India and Brazil, as well as from other parts of Africa transmitted by them. The bronze fowl of Benin are undoubtedly Indian, as may be also the gold weights of Ashanti. The archer on one bronze plate is Asiatic, likewise the ornaments, etc., of the warriors. The stuffed coats of mail of some of the soldiers on these plates may hail from Brazil. Through the Portuguese came manioc, the sand-flea, etc., to W. Africa. The language of the Angola Negroes has even a few American Indian words.
- Bushmen (The)** as existing representatives of the palcolithic races. (Rec. of Past., Wash., 1909, VIII, 137-138.) Brief résumé of Prof. W. J. Sollas's article in *Science Progress* for April, 1909.
- Buxton (T. F. V.)** Missions and industries in East Africa. (J. Afric. Soc., Lond., 1909, 279-287.) Shows "how it is that those interested in missions are driven to the consideration of industrial questions," and "describes briefly what is being attempted for their solution." Manual training and industrial work, cotton-cultivation, coco-nut planting, laundrying, etc., are considered.
- Camboué (P.)** Les premiers ans de l'enfance chez les Malgaches. (Anthropos, Mödling-Wien, 1909, IV, 375-386, 4 pl.) Treats in detail of circumcision and name-giving among the Hova of Madagascar. At pp. 385-386 are given the native texts and translations of 16 *fady* or taboos for children.
- de Clercq (A.)** Quelques légendes des Bena Kanioka. (Ibid., 71-86, 442-456.) First part gives native text with interlinear translation of 7

- legends (serpent, toad and lizard, old woman, Kadiampenga and the ogre, Malovu and the crocodile, Kabafu-banza, the hunter and the ogre) from the Bena Kanioka, of the Mbujaïmai—Lubilashi region in the Congo Free State. The second part gives text and translations of Nos. 8-14 of legends (leopard and antelope, Kamundi and the partridge, the animals that kill their mothers, the tree of God, the girl and her calabash, the woman and the bird), Nos. 15-18 of songs, and No. 19 a recitative.
- Crahmer (W.)** Über den Ursprung der "Beninkultur." (Globus, Brunschwig, 1908, xciv, 301-303.) Argues for the Indian origin directly or indirectly of the art of the famous "Benin bronzes," etc. They may have been due to intermediary Portuguese influence, or some stray Indian bronze-casters may have made their way to W. Africa. The art of the Malabar coast of India resembles much this W. African. C. points out that "in the year 1554 there came to Portugal the King of Benin, a Caffre by nation, and he became a Christian."
- Über den indoportugiesischen Ursprung der "Beninkunst." (Ibid., 1909, xcv, 343-349, 360-365, 12 figs.) C. holds that the "Benin art" represents a mixed style grown up in colonial time as result of the Portuguese-African-Indian intercourse, and containing Portuguese, pure African and Indian elements, and perhaps others. The Hindu figures of gods, C. thinks, have been utilized for the Benin bronzes; also the bronze, brass and clay animal and votive figures of S. India; Indian bronze casters may actually have been in W. Africa. The utensils of the Christian church, brought early to Africa, had also their influence. A native legend attributes brass-work, etc., to a white man. These first modelers may have been Hindus, Portuguese or even Germans (for German bronze-casters were in the service of Portuguese kings).
- Crawford (J. W. W.)** The Kikuyu medicine man. (Man, Lond., 1909, ix, 53-56.) The medicine-man known as *murguri* (fortune-teller, prophet) and *munda mugo* (priest-physician) is much in evidence in social life. His methods as fortune-teller and "physician," the ordeal, etc., are described.
- Czekanowski (J.)** Die anthropologisch-ethnographischen Arbeiten der Expedition S. H. des Herzogs Adolf Friedrich zu Mecklenburg für den Zeitraum vom 1. Juni, 1907 bis 1. August, 1908. (Z. f. Ethnol., Berlin, 1909, xli, 591-615, colored map.) Résumés activities and results of the Duke of Mecklenburg's expedition to East Africa, 1907-1908, during which 3350 men and women were measured and 1013 skulls collected from the Nile valley (chief) and the Congo; casts of 35 faces and 1 thorax. Of ethnographic specimens 1700 were obtained from Ruanda, Toro-Unyoro, Logo and Manbetu-Momvu. Studies were made of social-organization and vocabularies of 21 languages (also phonographic records, songs, etc.). The distribution of languages is indicated and tribal names are explained,—there are also some notes on the pigmies (they speak the Balése tongue). In this region rivers and lakes, not mountains, form anthropological boundaries. The primitive people of the forests are shorter than the inhabitants of the open plains. The Batwa of Ruwenzori are identical with the forest pigmies.
- Das Land der Iforass-Tuareg.** (Globus, Brunschwig, 1908, 382-383.) Résumés from article in *La Géographie* for April, 1908, Capt. Arnaud and Lieut. Cortier's account of the country of the Iforass Tuaregs, N. E. of Gao in the Sahara. The Adrar Tuaregs are not really "noble."
- Delafosse (M.)** Le peuple Siéna ou Sénoufou. (R. d. Et. Ethnogr. et Sociol., Paris, 1908, t. 448-457, 483-486; 1908, ii, 1-21, 2 pl.) Treats of social classes, castes, families (clans), politics, birth and child-life, marriage, family-life and life of men and women, funerals and cult of the dead, property, succession and inheritance, civil justice, crime and punishment, religion (God, spirits, cult and initiation, taboos, sacrifice, sacred forests: 1 in 1,000 is Mahometan), intellectual and moral characters, etc.
- Delisle (F.)** Sur un crâne Maure. (Bull. Soc. d'Anthrop. de Paris, 1909,

- v^e s., x, 10-13.) Describes, with measurements, a dolichocephalic (index 60.47, approximate capacity 1,350 cc.) skull of a male member of the Moorish tribe of the Ulad-bu-Laya, of Seliaby, N. of the Senegal. The skull "reproduces certain marks of the ancient quaternary race of Cro-Magnon" and exhibits at the same time certain negroid elements, suggesting *mélange*.
- Dannett (R. E.)** At the back of the black man's mind. A reply to E. T. (Man, Lond., 1908, viii, 89-91.) Reply to reviewer's critique of D.'s use of linguistic evidence in his recent book.
- Yoruba salutations.** (J. Afric. Soc., Lond., 1909, viii, 187-189.) Gives native texts (obtained from Mr Beccroft, son of a Yoruba who accompanied the late consul Beccroft on many of his journeys and therefore adopted his name) and English translations of numerous words used on meeting, entering and leaving a house, on the birth of a child, at a marriage, at a death.
- Desparmet (J.)** La mauresque et les maladies de l'enfance. (R. d. Et. Ethnogr. et Sociol., Paris, 1908, 1, 500-514.) Treats of the influence upon the hygiene and education of childhood of the theory attributing diseases, etc., to the "evil eye," spirits, witches, etc. Child-birth and amulets, sleep, walking, weaning, speech, teething, intestinal troubles, hernia, scrofula, goitre, fever, whooping-cough, cholera infantum, jaundice, "tixqueri" (sore neck), etc., and their treatment are considered.
- Diesing (E.)** Eine Reise in Ukonongo, Deutsch-Ostafrika. (Globus, Braunschwg., 1909, xcv, 309-312.) Contains some notes on the natives (Manika, Nondo, Mpets, Mfipa, etc.), their villages, festivals, etc.
- Dokumente für die Umschiffung Afrikas zur Zeit Nechos.** (Ibid., 1908, xciv, 176.) Treats, after A. Moret and J. Canari (*Mouvement Géogr.*, July 26, '08) of the two scarabæ in the Musées Royaux du Cinquantenaire in Brussels, containing descriptions relating to the voyage of Pharaoh Necho around Africa. These inscriptions were later shown by A. Erman and H. Schaefer, the Egyptologists, to be modern forgeries, made up of known Egyptian texts.
- Duckworth (W. H. L.)** Report on three skulls of A-Kamba natives, British East Africa. (Man, Lond., 1909, ix, 114-116.) Describes with measurements an adult male, an adult female and a young female skull (cephalic indexes, 75.7, 74.3, 75.1).
- Dundas (K. R.)** Kikuyu calendar. (Ibid., 37-38.) Gives native names of the 12 months, of the two seasons (July-January and February-June), and activities of people during each. There is no word for our year of 12 mos., nor for the days of the week (market-days serve). Circumcision-months are carnival months.
- Notes on the origin and history of the Kikuyu and Dorobo tribes. (Ibid., 1908, viii, 136-139.) The Kikuyu are a mixed race (partly Masai) whose invasion dates back a century or so; the earliest inhabitants of the Kikuyu country were the Dorobo, who are not beneath the other natives in intelligence. According to D., "languages go for nothing in this country where a whole tribe will with the greatest facility in the course of a single generation change its language."
- Eyles (F.)** Fire-making apparatus of the Makorikori. (Ibid., 106.) Note on flint-steel charred vegetable fiber method of fire-making used by the Makorikori near Mt Darwin, Mazoe, S. Rhodesia.
- Fassmann (—)** Die Gottesverehrung bei den Bantu-Negern. (Anthropos, Mödling-Wien, 1909, iv, 574-581.) Treats of names for "God" among the Bantu tribes (two varieties, one connected with the sun or sky, the other with the ancestor cult or spirits), and of their religion—two disparate parts, fear of spirits, and service of spirits: right-hand spirits and left-hand spirits). At p. 578 is given the brief story of "The man who wanted to shoot Ruca (sun, God) with an arrow." The moon is the wife of the sun, and with the Wadjagga, the former is neutral, the latter good.
- Ferrand (G.)** Note sur l'alphabet arabe-malgache. (Ibid., 190-206.) Treats of the 30 consonants, 23 pure

vowels, 13 nasal vowels, 27 pure diphthongs, 4 nasal diphthongs and 2 triphthongs, composing the Malagasy alphabet ancient and modern. In the S. E. Islamization and the Arab alphabet have attained their maximum of development,—here the 27 Arab characters have to transcribe 83 phonemes.

— *L'origine africaine des Malgaches.* (Bull. Soc. d'Anthrop. de Paris, 1909, v^e s., x, 22-25.) Discusses and criticizes Grandidier's theory (*L'origine des Malgaches*, Paris, 1901) of the peopling of Madagascar by successive migrations of "Indo-Melanesian negroes" (Melanesians), with its contention as to the absence of Sanskrit words from Malagasy, and sets forth the view that the Malagasy are of Bantu origin. The ethnic history of Madagascar, according to F., has been as follows: 1. Unknown pre-Bantu period. 2. Bantu period with important immigration of Bantus anterior to our era. 3. Indonesian, pre-Mérina, pre-Hova period, with important immigration in 2d-4th centuries A. D. of Hinduized Indonesians from Sumatra, who dominated and absorbed the Bantus. 4. Arab immigration from end of 7th-9th century, and Islamizing of Malagasy. 5. Second Sumatran immigration about the 10th century. 6. Persian migration. 7. Arab migration ca. 1500 A. D. Some of the arguments of F., and certain etymologies, that of *Hova*, e. g., are farfetched and hazardous.

Pfoulkes (A.) Funeral customs of the Gold Coast colony. (J. Afric. Soc., Lond., 1909, viii, 154-164.) Treats of forms of notification (donations, notifications of debts due by deceased), hut-burial (fast dying out), provision of coffin, action of widow (divorced wife takes no part in funeral), funeral of an *omanhin* or chief (secrecy, private burial, mock funeral; detailed account, pp. 160-164), etc.

Förster (B.) Aus dem Königreich Kongo. (Globus, Brnschw., 1908, xciv, 93-94.) Résumé article by Rev. T. Lewis in the *Geographical Journal* for June, 1908, on geographical relations, people, intellectual

life of negroes, slavery, colonizing, etc.

Frazer (J. G.) Statues of three kings of Dahomey. (Man, Lond., 1908, viii, 130-132, 2 figs.) Based on article by M. Delafosse in *La Nature* (Paris), for March, 1894, pp. 262-266, describing three life-size wooden statues in the Trocadero Museum, Paris, which "seem to prove that kings of Dahomey habitually posed as certain fierce animals or birds," a fact which "may perhaps throw light on such legends as the Minotaur, the serpent of Erechtheus, and so forth."

Freise (F.) Bergbauliche Unternehmungen in Afrika während des Altertums. (Globus, Brnschw., 1908, xciii, 28-30.) Résumés data as to mining in ancient times in Africa: Ancient Egypt (gold in Upper Egypt and Punt,—Somali, probably the Ophir of Solomon,—and perhaps farther south; emeralds in the mountains of Sikkit and Djebel Zabara; iron and copper from Sinai peninsula, etc.; turquoise from Djebel Serhal; stone for building, etc., from Upper and Lower Egypt); Carthage (lead-glance from Tunis, etc.); iron industry of N. Africa (flourishing in antiquity about Bona); Roman copper-mines in the Djebel Sidi Rghels (Tunisia), antimony at Ain-el-Bebbuch, south of Constantine; rock-salt at Taodeni in the desert region of the western Sudan.

Frey (F.) Beschreibung der Mumie des Amonpriesters Paneschi im Museum zu Colmar "Unterlinden" (Mitt. d. naturh. Ges. in Colmar, 1907-1908, x, 1., ix, 53-66, 3 pl.) Describes the mummy of Paneschi, priest of Amon, dating from 663-332 B. C., now in the Colmar Museum,—coffin, grave-gifts, inscription, etc. The golden statuettes of gods (Amon, Neferiam, Isis with Horus, etc.), and other ancient Egyptian works of art in the Museum are of interest.

Frobenius (L.) Reisebericht. (Z. f. Ethnol., Berlin, 1908, xi, 799-803.) Notes on the peoples, etc., met with in a journey from the eastern edge of the Senegal region into the southern country about the source of the Niger, as far as the primitive W. African forest in the interior of Liberia,—the Mandingo ("sons of

the Ma.—*Moustas Vogelii*) and their neighbor-tribes E. and W. F. has obtained much information, through personal investigation and experience, concerning numerous secret societies, etc. The fables of this region seem to belong more with those of the Sahara tribes than with those of the Negroes proper. Indigenous art has been largely destroyed. F. has studied especially the old state of Mali (the Serrakollé and Bammana or Bambara are also old state-forming peoples). F.'s assistant, Nansen, made 1000 sketches and drawings, besides many portraits.

— Brief aus Timbuktu. (*Ibid.*, 929-930.) Notes success in obtaining historical and religious data of importance. F. "overcame the terribly obstinate resistance of the Fula and Mandingo mind."

— Reisebericht. (*Ibid.*, 1909, xii, 263-266.) Résumés ethnological activities in the triangular region of which the angles are Bamako on the upper Niger, Mangu in Togo, and Timbuktu, north of the Niger, a region of many varied types (e. g., in houses, villages, etc., W. African, S. African forms, etc.; bows, musical instruments); Mythology and religion (Mossi religion based on manism; in N. W. tradition limits and hinders history), songs (Mande types, Sorokol or Sonthai songs like central Asiatic hero songs; Fula songs recalling old French epics; animal tales of an Aesopic sort, religious and secret societies).

Garstang (J.) Excavations at Abydos, 1909. (*Ann. Arch. and Anthropol.*, Liverpool, 1909, 11, 125-129, 3 pl.) Gives brief account of objects found belonging to various periods from the second dynasty (ante 3000 B. C.) to the latest dynasties and Ptolemaic period (ca. 300 B. C.): flint implements, royal seal impressions in clay, alabaster vases, bronze objects, cylinder seal, amulets, pottery vases, beads, small stelae, stone objects, metal and clay objects, daggers, scarabs, ornaments, alabaster and pottery figures, vases of stone and faience, bronze vessels, jewels of gold, personal ornaments, painted cartonnage, silver figures, etc. The button-seals have seeming relations

with Cretan seals. Interesting also is the collection of coppersmith's tools from a tomb of the sixth dynasty.

Gaud (F.) Organisation politique des Mandja, Congo. (*R. d. Et. Ethnogr. et Sociol.*, Paris, 1908, 1, 321-326, 2 pl.) Treats of clan (composed of family groups), clan-names (list of 77), clan-chief (formerly had a sort of moral authority making him the first of the clan; since the European occupation the rôle and authority of the chief have developed much), sub-chiefs (since the French occupation these have become *caporals*, a corruption of *caporals*), meetings (for warlike purposes; the only expression of Mandja collective organization), etc.

Gautier (E. F.) Les mpakafo, chercheurs de coeur. (*Bull. Soc. d'Anthropol.*, de Paris, 1908, v^e 2, ix, 487-491.) Note on the "heart-hunters,"—certain Hovas of Madagascar are said to seek to sell (for purposes of sorcery) to the Europeans the hearts of newly killed infants. The *mpakafo* appeared in Tananarivo as late as 1907. In the discussion M. Baudouin compared the "Bluebeard" lore of western Europe.

Gayet (A.) Les dernières découvertes archéologiques faites en Egypte. (*Mercur de France*, Paris, 1909, lxxix, 456-466.) Notes on investigations of E. Naville (temple of Thothmes III), Davis (20th dynasty mummy of prince), Schiaparelli (princesses of Rameses family in the Valley of the Queens), Zucker (papyri at Fayûm, mummy cartons, etc.), Lythgoe (in the Libyan oasis of Kirghah, temples, etc., city founded by Hadrian, etc.).

van Gennep (A.) L'expédition ethnographique du Prof. Dr K. Weule dans l'Afrique Orientale Allemande en 1906. (*R. d'Et. Ethnogr. et Sociol.*, Paris, 1908, 1, 317-320, 5 figs.) Based on Dr K. Weule's recent work. Notes on a native map of caravan-roads, lock and keys, masks and ornamental scarifications of the Makonde.

Goldstein (F.) Viechtbesaurierung in Haussafulbien und Adamana. (*Globus*, Brunschwig, 1908, xciii, 373-376.) Treats of the possession of cattle in the Hausa-Fulbe country and Ada-

maua and of the development of cattle raising as a source of wealth. The proper recognition and exploitation of this economic fact by the European colonial authorities would be of great benefit to the native races and to the whites as well.

— Die Frauen in Haussafulbien und in Adamaua. (Ibid., 1908, xciv, 61-65.) Treats of social position (very good among the Hausa and Fulbe; among the Fulbe nobles or Torobé full-fledged harem system and polygamy; children much desired), legal status, etc., of woman in the Hausa country, etc.

— Die Lukokescha des Lunda-reiches. (Ibid., 1909, xcv, 331-334.) Gives an account, after various authorities (especially Pogge's *Im Reiche des Muata Jamwo*) of the *lukokescha*, the co-regent of the *muata jamwo*, or king of the Lunda realm (now gone in pieces), her power, prerogatives, etc., with references to similar "queens" elsewhere in Africa. The *lukokescha* could never be married, or have children. Otherwise, her power was as great as that of the *muata jamwo*; any preponderance was due to personality, etc.

Green (F. K.) Folk-Lore from Tangier. (Folk-Lore, Lond., 1908, xix, 440-458.) English texts of: The reason for abstaining from wine and pork, tale of a lantern (pp. 443-453), the weight before the door, bay and myrtle, the jinns, the tortoise, the spring.

Guebhard (P.) Les Peuhl du Fouta Dialon. (R. d. Et. Ethnogr. et Sociol., Paris, 1909, II, 85-109, 2 pl.) Résumés the origin-myths and traditions of the natives; treats of the distinction between the Fulbe and the Fulah,—the latter in the majority in Futa, the family divisions,—at pp. 95-99 is given a table of Ouroubé, Dial-Diallo, Daedio, Peredio families with notes on the various groups and families. Also two extracts from written documents. The Fulah are not a "red people," but a mixed race.

Gutmann (B.) Fluchen und Segnen im Munde der Wadschagga. (Globus, Brunschwg., 1908, xciii, 298-302.) Treats of cursing and blessing among the Wadjagga. Words for

"thank you" and like greetings; greetings in the name of God or of the sun; wishes and desires for children, food, rich harvests, etc.; wishes for ill-luck, misfortune to others, etc.; conjurative sayings against evil eye, disease; flattering words, of a "beautiful tongue"; insulting words and expressions; cursing formulae (in the name of God), the magic power of the chief, the spirits of the dead, disease, the terrors of the steppes; secret cursing, indirect malediction; interjections with force of a curse; relief from cursing by ceremonial.

— Zeitrechnung bei den Wadjagga. (Ibid., 1908, xciv, 238-241.) Treats of time-reckoning among the Wadjagga: moon and month = *mwiri*; "new moon day"; day-names and their meanings, lucky and unlucky days (first count of days to 5, then new count from one to 10); months (begin with *Kwazana*, corresponding about to German March) and their names; season (great rain period, dew period, first warm period, little rain period, great heat period); different sorts of rain; adverbs of past, present, future (a term exists for "day after the day after the day after to-morrow"); divisions of day and night and their names (night-divisions named after "wakings-up").

— Kinderspiele bei den Wadjagga. (Ibid., 1909, xcv, 286-289, 300-304.) Treats of children's plays and games among the Wadjagga negroes: ring-game with song; "who is your husband?" (played by girls; boys have a game somewhat similar); monkey-game; imitating the kingfisher; playing war; shooting with bow and arrow; looking each other in the eye; jumping over a stick; teasing and jesting; playing owl (in dark wood); hiding (no counting-out rhymes, etc.); tests of strength and skill; imitating elders and parents; "grasshopper dance"; playthings (no special toy, but new things made again and again out of banana leaves, etc.; wagons in imitation of Italian transport-vehicles, stilts; noise-making implements); keeping children in order ("the ear-cutter,"—a green locust,—"will get you");

guessing games and riddles (numerous examples); teasing-game; dance and work-songs (song of girls after grass for cows, p. 303), fables and parables (example), catching and eating locusts (roasting feast for boys) and termites (by girls), etc.

— Die Opferstätten der Wadschagga. (A. f. Relig., Lpzg., 1909, xii, 83-100). Gives details concerning the "holy places," or sacrificial spots of the Wadjagga of E. Africa. The foot of the center-post of the hut (where drink for the spirits is poured), the fire-place, a large flat stone outside near the door of the hut (offerings by males here), the gravestones of ancestors among the banana-trees about the house (offerings made only by the individual families to whom these places are sacred), the graves of the "district ancestors" (*nkwa wo mungo*), certain pools in the river-bed (these have special charms for the Wadjagga, on account of the many spirits in the water (a legend relates the combat of a white man with a "pool"), the spot where a canal begins to flow from the river, the passes and paths leading out the Wadjagga country (at the border bloody sacrifices are made when war threatens), etc. These cult-places do not, however, exhaust the sacrificial spots of the Wadjagga, who can "approach his anywhere whenever he has need."

Haarpaintner (M.) Grammatik der Yaundesprache. (Anthropos, Mödling-Wien, 1909, iv, 664-701). First part (nouns, adjective, verbs *to be* and *to have*, pronouns, numerals) of a grammatical sketch of the language of the Yaunde, a people of the interior of the Cameroons.

Haberer (Dr.) Beobachtungen in Südkamerun. (Korr.-Bl. d. D. Ges. f. Anthropol., Brnschw., 1908, xxxix, 215-216.) Brief résumé of experiences in the South Cameroon country. H. observed the chimpanzee and gorilla in captivity and in free forest life, where their high intelligence is noticeable.

Haddon (A. C.) A copper rod from the Transvaal. (Man, Lond., 1908, viii, 121-122, 2 figs.) Describes the *marali* or copper rod currency (employed principally for the purchase

of brides by chiefs) of the natives of the Zoutpans district,—this specimen came from Pallaboroa in the northern Transvaal. One end has a cone with root-like projections. See Hemsworth (H. D.)

Hamberger (A.) Religiöse Überlieferungen und Gebräuche der Landschaft Mkulwe. (Anthropos, Mödling-Wien, 1909, iv, 295-317.) Treats of history of Mulkwe since 1750, cosmological and other traditions (native texts and interlinear translations of 10 brief legends—the first two men, original innocence, sin and punishment, disease and death, resurrection, the other world, Kenge-masala, "the child of wisdom," the deluge, the building of the tower), the spirit-world (*Ngulwui*, creator and good God; *Mumwa*, a subordinate evil deity), influence of spirit world on the fate of man, relation of man to the spirit world, prayers and penances (several native texts), the shaman and "medicine man." The Mkulwe are a tribe of German East Africa on the lower Saisi (Momba).

Hemsworth (H. D.) Note on *marali* currency. (Man, Lond., 1908, viii, 122.) According to H., *marali* or copper-rods are no longer used as a means of exchange, but "seem to be regarded more in the light of heirlooms,—of value only to the families who possess them." They may also have some magic of "medicine" associations. The copper ore used was obtained from the old workings at Pallaboroa. See Haddon (A. C.).

Henry (J. M.) Le culte des esprits chez les Bambara. (Anthropos, Wien, 1908, iii, 702-717, 3 pl., 1 fig.) Treats of the spirit-cult of the Bambara of the French Sudan: Ideas about spirits and their classification; the fetish *Dasiri*, protector of the village (election of *dasiri*-priest, choice of sacred tree, animal, etc., sacrifices and formula of sacrifice); the secret society of *Koré*, protective fetish of harvests (power of spirits, priest, sacrifices, sacred *Koré* dance, funeral honors of "sons of *Koré*, the 7 *Koré* groups).

v. Hornbostel (M.) Wanyamweri-Gesänge. (Ibid., 1909, iv, 781-800.) Treats, with 12 pages of native text

and music (from phonographic records) of the songs (war, wedding, travel, marching, dance, women's-dance, work, etc.), of the Wanyamwezi, a typical Bantu people of the East African Protectorate.

Huguet (J.) Sur la recherche du manuscrit du Kitab En-Nasab et la traduction Giacobetti. (Bull. Soc. d'Anthrop. de Paris, v^e s., ix, 1908, 660-666.) Notes and additions to Father Giacobetti's translation of the Kitab En-Nasab, the history of the Ms., some citations, etc. This book is of importance to orientalists, and belongs with the reports of Ibn Khaldun, Edrisi, Djenawi, etc. Genealogy and legend are intermingled. The legend of the origin of Fez is cited by Huguet (p. 663).

Dans les zaouias. (R. de l'Éc. d'Anthrop. de Paris, 1908, xviii, 349-357, 6 figs.) Describes visits to El Hamel, the seat of the celebrated zaouia of the venerable marabout Si Mohammed, and the oasis of Ain Madhi, the center of influence of the Fedjina marabouts with their zaouia.

Remarques sur la région des Dayas. (Ibid., 327-328.) Notes the region of dayas (principally in the valley of the Oued Nili), fertile depressions with plethora of vegetation, but inundated at times so as to forbid permanent occupation by man.

Johnston (H.) Where Roosevelt will hunt. (Nat. Geogr. Mag., Wash., 1909, xx, 207-256, 3 figs., 20 pl.) Contains notes on the Masai (disposal of dead; poisoned arrows; hunting), natives of Uganda, etc. Many of the illustrations (ethnic types, village-building by women, villages, houses, family scenes, feasts, hunting, cane-carriers, fisherwomen, initiation-ceremony, and dance, gala attire) are of ethnological value. Based partly on the author's *The Uganda Protectorate*.

Joyce (T. A.) On a carved wooden cup from the Bakuba, Kasai district, Congo Free State. (Man, Lond., 1909, ix, 1-3, 1 fig., 1 pl.) Describes vase-shaped elaborately ornamented (lizards, weevils, loop, lozenge, diaper patterns, etc.) cup now in the British Museum, obtained from an old fetish-man of Misumba, a village of

the Bangongo sub-tribe of Bakuba. The shape suggests European influence, and the ornament the art of Benin, but no proof of direct European contact earlier than Wisemann's comparatively recent visit exists.

— Steatite figures from Sierra Leone. (Ibid., 65-68, 1 pl.) Brief account of 7 specimens in the collections of the British Museum,—one of these figures, a man seated on a stool and carrying a bowl, is rather unique. Additional information concerning these figures, from Rev. A. E. Greensmith of Bo, and Maj. G. d'A. Anderson of Makondo, is given. J. does not consider that the facts warrant attributing any great age to these works of primitive art. See Röttmeyer (L.).

— Note on the relation of the bronze heads to the carved tuks, Benin City. (Ibid., 1908, viii, 2-4, 1 fig.) Argues (on evidence furnished by Mr R. E. Dennett) that these bronze heads were used as pedestals for elephants' tuks,—they are known as *humiwela* and were set up in the king's palace.

Jumelle (H.) et Perrier de la Bathie (H.) Quelques ignames sauvages de Madagascar. (C. R. Acad. d. Sci., Paris, 1909, cxlix, 484-486.) Treats of several species of wild yams used as food by the Sakalavas,—the *bemandry*, *soso*, *macabiha* (or *fanganga*), *antaly*, *maciba* (or *malisa*), *anguroka*, etc.

Junod (H. A.) The Balemba of the Zoutpansberg, Transvaal. (Folk-Lore, Lond., 1908, xix, 277-287.) Treats of origin-myth, language (Bantu, but not of the S. E. group), industry (pottery, metallurgy), special medicines, domestic fowl, treatment of slaughtered animals, meat-taboo, head-shaving, circumcision, relations with other peoples, marriage-custom, effect of European civilization (rather disastrous). J. argues that the superior knowledge that the Balemba brought with them is due to their having been "submitted to Semitic influences," etc.

Karasek (A.) Tabakspfeifen und Rauchen bei den Waschambaa, Usambara. (Globus, Brunschwg., 1908, xciii, 285-287, 5 figs.) Treats of tobacco-

pipes, smoking, etc., among the Washamba. The pipes consist of clay bowl (made by men or women, but not from the same clay-pit) and the stem (of plant or bush stalks). Tobacco is carried in a skin-purse. Snuff-taking is rarer than chewing and smoking. Cigarette holders of wood are very rare.

King (P. V.) Some Hama idioms. (J. Afric. Soc., Lond., 1909, VIII, 193-201.) Treats of translation of "never" and "ever" in "Have you ever done so before? I will never do it again"; the verb suffixes; the rendering of "in vain," "useless," "before," "how" and "what," "if I had . . . I would have," "business," "affair" (Hama = "water"), rendering of comparative (comparative absent from Hama), possessive particle *mai* or *ma* (= owner of), preposition *de* (makes intransitive verb active), enclitic redundant particles *si* and *dei*, the unique particle *tukuna* (used positively and negatively), the rolling of the *r*, etc.

Krauss (H.) Hausräte der deutsch-ost-afrikanischen Küstenneger. (Globus, Bruchswg., 1908, XCIII, 357-363, 28 figs.) Treats of the household implements, utensils, etc., of the coast Negroes of German East Africa: Pottery (every hut has 10 or 12 of different sizes); preparation of meal (maize, rice, millet, with mill-stones, with wooden mortar and pestle; basketry and allied arts (mats, fans, covers for food, filters, plates, cups, purses, fish traps and weirs); rope and string (used instead of nails in house-building); wood-work (beds, seats, drums, bee-hives, drinking-vessels, ebony sticks, combs of a tasteful sort, knife-sheaths, shoes of a primitive kind, foot-block for chaining slaves; plank-boats); iron implements (hoe, axe, knife, etc.); leather articles (bellows, of two sorts, purses, sandals); clothing, tobacco-pipes (smoking most common, chewing rare and snuff-taking least common).

— Die Wohnung des ostafrikanischen Küstennegers. (*Ibid.*, 1908 xciv, 380-382, 10 figs.) Describes the house (building, rooms, etc.) of the E. African coast Negroes of Dar es Salem, Duudi, Mpera, Kitchwele, Maundi, etc.

Landor (A. H. S.) Across widest Africa. An account of the country and peoples seen during a journey across Africa from Djibuti to Cape Verde. (Nat. Geogr. Mag., Wash., 1908, XIX, 694-737, 7 figs., 30 pl., map.) Brief summary of author's *Across Widest Africa* (2 vols., London, 1908). The illustrations treat of Abyssinian officials, Galla butter-seller, Yambo women's market, stampeding Yuer women, long-legged Yuers, leper, Yacoma canoe-crew, Tongu hair-ornament, Sultan of Bongasso and wives, Ubangi dancer, Congo cannibals, long canoe, children banana-carriers, women dancers of Congo, cannibal dances, Ubangi fisherwomen, Sango cannibals, beauty competition, Mandja women and babies, Shari women with *pelele*, mud-barns of upper Niger, Timbuktu type.

Lissauer (A.) Archäologische und anthropologische Studien über die Kabylen. (Z. f. Ethnol., Berlin, 1908, XI, 501-529, 4 pl., 19 figs.) Gives results of visit in 1907. Treats of megalithic monuments (dolmens, menhirs and cromlechs like those of Europe, hundreds in number in Morocco, Algeria, Tunis (e. g. at Henchir al Hadjar some 400 dolmens still existed); stone-grave, circles, etc., peculiar to Kabylia,—the predecessors of the fine Moorish royal tombs of Medracen near Batna, etc. and the so-called "tombeau de la Chrétienne" near Algiers), the Kabyles and their habitat, physical characters (in general the middle-sized, dark-haired, brown-eyed Kabyles resemble markedly the South Europeans, and the color of their skin on all unexposed parts of the body, etc., is white; the blonde Kabyles strongly resemble North Europeans, particularly Scotchmen; real negroes are rare, mulattos rather common; women often beautiful), clothing, occupation, food (flesh diet rare), children (good influence of French rule seen in schools and civilizing influence). L. attributes the blond Kabyles to a prehistoric migration of blond North Europeans; the white Kabyles with dark hair and brown eyes belong to the Mediterranean race, and have adopted the Hamitic speech of the people they

found before them in N. Africa, the autochthones of the country; the dolmen-graves came with the blond North Europeans. The succession of peoples in Kabylia has been: Hamitic autochthones (related to the Somali), Kabyles from Iberian peninsula, blond North Europeans,—then historic invasions of Phenicians, Greeks, Romans, Jews, Vandals, Byzantines, Arabs, Turks, Spaniards and French. Through all this the Kabyles of Rif, Djurdjura, the Aurès, Enfida, etc., have preserved their race-purity.

Lissauer (Anna) Vier kabylische Fabeln und Märchen. (Ibid., 529-535.) German texts of 4 Kabyle fables and *märchen* (ass and lion, the good son, the friends, the three heirs) from Taouirt-Amokran in Great Kabylia.

v. Luschan (F.) Ueber Buschmann-Malereien in den Drakensbergen. (Ibid., 665-685, 4 pl., 10 figs.) Describes visit in 1905 to the Bushman paintings in the caves of the Drakenberg,—Esikolweni, Bushman's Klip, Hoffenthal, valley of the Ullungati, Harrismith, Herschel, etc. Of these 27 were copied in water colors by Hr. Terno, and 26 photographed. Of these 18 are reproduced in this article. Some of these paintings must be several centuries old and in some cases they are several layers of paintings on the same spot. v. L. attributes them all "exclusively to the Bushmen." The reproductions in color of some of these paintings are the best yet published. The copies are now in the Berlin Ethnological Museum. The black neighbors of the Bushmen call the latter *Abatwa*,—a name by which the Congo pigmies are known.

— Eisentechnik in Afrika. (Ibid., 1909, xli, 22-59, 24 figs.) Treats of bellows and furnaces for smelting iron in primitive Africa: Bellows of covered wooden or clay bowls, etc., with variations in number of vessels, nozzles, attachments, covers, etc. (found all over Africa where iron smelting is practised; known also from ancient Egypt at a period corresponding to the Mycenaean epoch, and probably indigenous in Africa); skin-bag bellows (known to Wangoni, Konde, Wamangandja, Masai, etc.,

more widespread than is generally thought; its Indian origin is not yet proved—if Indian it is probably a comparatively recent importation); pump-bellows (in Madagascar; indigenous in India or Indonesia possibly); leather bellows (Basari region in Togo, showing recent European influence, but possibly indigenous at bottom). Smelting furnaces for reducing the ore ("high ovens") are described from the Bongo and Dyur, Wangoni, the Togo country (Banyeri, Basari, Odomi, Lolobi, Misahöhe), the Yoruba, Wapororo, etc.; the question of iron in ancient Egypt, Babylon, India and prehistoric Europe is discussed. Neither India nor Asia Minor, v. L. thinks, can be the original home of the iron industry. He concludes that the ancient Egyptians learned of iron and its production from their southern neighbors and that its manufacture originated in Central Africa, passing by way of Egypt and Asia Minor to the western Mediterranean countries, thence to Northern Europe. In the discussion Hr. C. Giebelier opposed and Hr. C. F. Lehmann-Haupt supported v. L.'s views. See Ols-hausen (O.) and Grosse (H.)

Macgregor (J. K.) Some notes on *asibidi*. (J. R. Anthropol. Inst., Lond., 1909, xxxix, 209-219, 98 figs.) Treats of a system of writing, "used a little here in the Calabar district of the eastern province of Southern Nigeria, but much more largely up the Cross River and inland from it on both banks." This *asibidi* writing "is really the property of a secret society, the *asibidi* society," and some few of its signs are known to the uninitiated. Rev. M. reproduces 98 *asibidi* signs of which 1-29 relate to marriage and home life, 30-44 to common articles of the house, 45-74 to public life in town, 75-86 to sickness, 87-97 miscellaneous, 98 record of an *ikpa* or judgment case. There seems to be no order of writing and the same sign stands for different things and the same thing is represented by different signs. The conventionality about some of the signs may indicate considerable age for this "picture-writing." Native tradition attributes it

- to the Uguakima section of the Ibo tribe, who learned it from the playing of the large tuboons at making signs on the ground and acting them out in pantomime. It is now used like ordinary writing. The effect of European influence is already apparent.
- Mass (J.)** *Essai sur les coutumes juridiques des peuplades du Bas-Congo Belge.* (R. d. Et. Ethnogr. et Sociol., Paris, 1909, II, 117-122.) Notes on the legal customs of the natives of the Belgian lower Congo, —Muserongo, Bakongo, Bahuende, Basundi, Mayombe, Kakongo.
- *Les Warumbi.* (Anthropos, Mödling-Wien, 1909, IV, 607-629.) Treats of food and drink (fond of meat and spices, also famous for wobondo or palm wine), dwellings and their construction and furnishing, toilet, dress and ornament, trades and occupations (tailoring, basket-making, hunting, pottery-making), family-life, religion (*bolosi*, or "fetish"; the *akisi*, or objects and personages of varied and extensive powers), art (sculpture and painting little esteemed; "tally-sticks"), language (numerals in Warega and Wasongola, p. 626), dance, song and music, other knowledge.
- Matquardt (F.)** *Bericht über die Kavirondo.* (Z. f. Ethnol., Berlin, 1909, XL, 753-757, 2 figs.) Notes of visit in June-August, 1909 to the country of the Kavirondo on the northeastern shore of the Victoria Nyanza,—clothing and ornament, use of tobacco by both sexes, tattooing (women chiefly), body-painting (men), fishing and hunting, weapons, food, diseases, etc.
- Merrick (G.)** Notes on Hausa and Pidgin English. (J. Afric. Soc., Lond., 1909, VIII, 303-307.) Discusses how the native expresses in "pidgin English," *intention, action, possession*, with some criticisms of the article of P. V. King (q. v.). Hausa "is an essentially simple language, entirely innocent of the somewhat complicated grammar which is gradually being built up for it," and "to compile a Hausa grammar on English lines is to ignore the fundamental differences of the two languages, the inevitable result being 'pidgin' or 'whiteman' Hausa."
- Messimy (A.)** *Les effectifs de l'armée et le service militaire des indigènes algériens.* (R. Bleu, Paris, 1908, v^e s. x, 774-776.) First part, chiefly historical, of article treating of the use of the Algerian natives in the French army.
- Millward (R. H.)** Natal, the garden colony. (Nat. Geogr. Mag., Wash., 1909, XX, 278-291, 5 figs., 8 pl.) Contains some notes on Zulus (marriage, etc.). Some of the illustrations (Zulu runners, warrior, wrestling match, native trial, native preaching, native industries, chief and wives) are of ethnologic value.
- Moisel (M.)** *Zur Geschichte von Bali und Bamum.* (Globus, Brunswick, 1908, XCIII, 117-120, map.) Notes on the history of Bali and Bamum, two Negro kingdoms of the N. W. Cameroon country, as derived from data furnished to the author by chiefs, missionaries, etc. The original home of the Bali is unknown, but their story begins with their expulsion from Kontcha by the Fulbe. The history of Bamum begins with Parifom and runs down to Joja, the present king, a sort of man of genius.
- de Morgan (H.)** *Étude sur l'Égypte primitive* (R. de l'Éc. d'Anthrop., de Paris, 1909, XIX, 128-129, 12 figs.) Treats of the archeolithic period of primitive Egypt and the author's researches at the Ousd-el-Guerroud, Mt. Thebes near Gurnah, Esneh, Adimieh, Gebel-Silsileh, Mohamid, etc., where paleolithic implements were found. These are the work of the first human inhabitants of Egypt.
- Myers (C. S.)** Contributions to Egyptian anthropology. V. General conclusions. (J. R. Anthropol. Inst. Lond., 1908, XXXVIII, 99-147.) According to M., "in spite of the various infiltrations of foreign blood in the past, modern Egypt contains a homogeneous population, which gradually shifts its average character as we proceed southwards from the shores of the Mediterranean to Nubia beyond the First Cataract." There is no anthropometric evidence of duality of race. The modern Egyptians have never been appreciably affected by other than sporadic Sudanese admixture. The aboriginal people of Egypt are "a homogeneous folk showing an inclination to vary in

two or three distinct directions, towards the Caucasian, the negroid, or even the mongoloid." Pages 104-146 are occupied by tables of measurements.

Neveux (M.) Sur les Bassaris. (Bull. Soc. d'Anthrop. de Paris, 1909, 4^e s., x, 35-36.) Treats of the "penis-cover," and other clothing of the Bassaris of the village of Seguseko, in Upper Gambia (Senegal). The men wear no other clothing than the *ribo* and a very primitive breech-clout;—the women wear more, often the Malinké apron.

Newberry (P. E.) Impressions of seals from Abydos. (Ann. Arch. and Anthropol., Liverpool, 1909, II, 130, 4 pl.) Figures and describes sealings of Kha-Sekhemul, Nefer-Khet, of the II-III dynasties, and private sealings from the second dynasty.

— A bird cult of the Old Kingdom. (Ibid., 49-51.) Treats of the *Wt*-bird (swallow?) in connection with the description (on the façade of a fifth dynasty tomb at Sakkara) of a "Khet priest of the double axe." N. points out the association of the bird and double axe cults in ancient Crete, suggesting a Nilotic colonization of that island. Many bird-cults (falcon, vulture, ibis, pin-tail duck, goose, crane, egret, etc.) existed in ancient Egypt.

Oetteking (B.) Kraniologische Studien an Altägyptern. (Arch. f. Anthrop., Brunschwg., 1909, N. F., VIII, 1-90, 14 figs., 4 pl.) Also reprint. See review of this thesis in *American Anthropologist*, 1909, N. S., XI, 122.

Offord (J.) Book of the Dead compared with the Bible. (Amer. Antiq., Salem, Mass., 1908, xxx, 276-278.) Cites resemblances and analogies (other-world ideas, thought of future, ideas of soul, etc.).

Orr (C. W.) The Hausa race. (J. Afric. Soc., Lond., 1909, VIII, 274-278.) Resumes and discusses the data in the article of Palmer on the Kano chronicle in the *J. R. Anthropol. Inst.* for 1908. See Palmer (H. R.).

Otto (Br.) Buschmannmalereien aus Natal. (Anthropos, Wien, 1908, III, 1047-1049, 5 pl.) Describes and reproduces Bushman paintings in the caves of the Drakensberg, near the mission-station of Reichenau, visited

and photographed in 1893-4. They contain figures of horses, cattle, human beings, hunting and battle scenes, etc. The enemies of the Bushmen represented in these paintings are not Zulus, as shown by the absence of the characteristic Zulu shield (O. treats this in detail), etc. The comparatively recent entrance of the Zulus into this region is thus indicated.

— and **Stratmann (Th.)** Fund einer althebräischen Münze in Natal, Südafrika. (Ibid., 1909, IV, 168-169, 1 pl.) Account of the finding of an old Hebrew coin of the age of Simon Maccabaeus (143-146 B. C.), 2 feet underground in the yard of the Trappist cloister at Marianhill.

Palmer (H. R.) The Kano chronicle. (J. R. Anthropol. Inst., Lond., 1908, XXXVIII, 58-98, 2 pl.) Translation, with historical-ethnological introduction, of the Kano chronicle (MS. of 1883-1893, based on earlier record now destroyed), A. D. 389-1892, "the history of the lords of this country called Kano." Except for the very early kings, this chronicle is "roughly accurate." The mixture of races and ideas in Hausaland are the result of the action of "Hamitic" invaders upon two negro types (short-legged and very prognathous; tall and slightly prognathous).

Papillault (G.) La pudeur chez les peuples nus. (R. de l'Éc. d'Anthrop. de Paris, 1909, XIX, 234-237.) Treats briefly of modesty among peoples who go naked, citing a communication from Dr Decasse concerning the Lakkas, a negro tribe of the middle Logona, who suffer from an affection of the scrotum due to their fashion of keeping (even when walking) testicles and penis back of their thighs,—a "gesture of modesty" met with elsewhere, originating psycho-socially in sexual taboo.

Parkinson (J.) Yoruba folk-lore. (J. Afric. Soc., Lond., 1909, VIII, 165-186.) Gives English texts of tales told chiefly by natives of Oyo: The story of a certain hunter and an ape with 16 tails, showing how wrong it is to make heavy bets; how the thunder came for the first time (a lightning bird myth); why the cat strays at home and does not go into the

- bush; story of a certain woman named Awelli, telling why a bride is brought to her husband by day and not by night; story of the two wives, pointing out how one should always be content with the things that are given one (Grimm's *Frau Holle* type); the worship of the thunder-bolt; how Shango hanged himself, and what resulted (origin of the catching fire of houses); how the tortoise helped the animals; story of a tortoise and a man named Tela; story of a dog and a tortoise (nos. 8-10 tell how the tortoise got the marks on his back); story of the pig and the tortoise; Ila; how the parrot's beak became bent.
- Partridge (C.)** The killing of the divine king. (Man, Lond., 1908, viii, 59-61.) Cites evidence from the customs of the Cross River natives of eastern southern Nigeria in support of the views of Westermarck. See Westermarck (E.).
- Petrie (W. M. F.)** Memphis and its foreigners. (Rec. of Past, Wash., D. C., 1909, viii, 131-136, 3 pl., 2 figs.) Notes on pottery heads of foreign types.—Persian, Seythian, Semite, Syrian, Sumerian, Babylonian, Aryan and "Tibetan,"—the making of which began during the Persian occupation, ca. 500 B. C. Also some inscriptions and prayers of the 18th dynasty showing ears for receiving and holding the petitions.
- Pittard (E.)** Note sur deux crânes Fang. (Bull. Soc. Neuchât. de Géogr., 1908, xix, 38-68, 4 figs.) Describes, with measurements, two skulls (f., m.) of the Fang of W. Africa,—the female is dolichocephalic and the male nearly so. Cranial capacities (direct cub.) 1240 and 1380 cc.
- Pösch (R.)** Zweiter Bericht über eine Reise in Britisch-Süd-Afrika. (Mitt. d. K.-K. Geogr. Ges. in Wien, 1909, LII, 195-197.) A few notes on tribes of Kalahari.
- Bericht über eine Reise in Britisch-Betschuana. (Ibid., 1908, LI, 389-391.) Brief account of anthropological investigations among Kalahari Bushmen.
- Proctor (H.)** Ancient Egypt. (Amer. Antiq., Salem, Mass., 1909, xxxi, 163-166, 1 fig.) Brief sketch from the neolithic age to the close of the sixth dynasty, which the author imagines ended by the Noachic deluge.
- Punch (C.)** Further note on the relation of the bronze heads to the carved tusks, Benin City. (Man, Lond., 1908, viii, 84, 1 fig.) Adds own evidence (and photographs) as eye-witness that tusks were standing on top of the heads.
- Rathjens (C.)** Ein Kirchgang mit dem Abuna Petros von Abessinien. (Globus, Brnachwg., 1908, xciv, 154-158, 6 figs.) Describes (R. was guest of the Abuna) the church-going of the Abuna Petros, head of the Abyssinian church (a Copt nominated by the Metropolitan of the Coptic church in Egypt, the mother of the Abyssinian), on April 5, 1908, to St. Matthews in Adua.
- Roscoe (J.)** Python worship in Uganda. (Man, Lond., 1909, ix, 88-90.) Treats of the worship, with offerings (beer, cowries, goats, fowls), at the time of the new moon, of a python ("the giver of children") in Budu on the w. shore of Victoria Nyanza. The "temple" and ceremonies were attended to by the *mandwa* or "medium," who lived there. This worship was "confined almost entirely to one clan in Uganda, and had a limited sphere of influence."
- Brief notes on the Bakene. (Ibid., 116-121.) Treats of habitat, houses, canoes, clans and totems, marriage (polygamy, exogamy; wooing, wedding), child-birth (twins welcomed), inheritance, beliefs, fishing, government, building houses, water-ways, dress and ornament. The Bakene are a Bantu tribe dwelling chiefly on the Mpologoma river, "where the tall papyrus forms a perfect shelter for their floating homes and the fish provides them with ample food."
- Nantaba, the female fetich of the king of Uganda. (Ibid., viii, 132-133.) Brief account of a gourd-fetich, "said to have power to assist the king's wives to have children and become mothers." At the death of the king Nantaba is thrown away, and a new gourd made for the next

king. In the procession one of the men, who carries the gourd, "walks like a woman near her confinement." Certain food-taboos are imposed.

- Notes on the Bageshu. (J. R. Anthropol. Inst., Lond., 1909, xxxix, 181-195.) Treats of habitat (caves as temporary refuges), clans (29 names), marriage-customs (polygamy, exogamy, bride-price), adultery (heavy fine), birth, twins, puberty and circumcision, puberty ceremony for girls, sickness and death, ghosts, religious beliefs, rock-spirits, spirit of waterfalls, rain-making, warfare, dances and music, dress and ornament, cow-keeping, cultivation (plantain, millet, sesame; harvest offering), new moon, buildings and villages, government (village elder; clan chief), murder, games, hunting, etc.

Rosenberg (—). Die Geschichte der Mumifizierung bei den alten Ägyptern. (Globus, Brnschw., 1908, xciv, 273-274.) Résumés paper of Prof. Elliott Smith at meeting of British Association for the Advancement of Science, Sept., 1908. The process of embalming seems to have been of indigenous origin in Egypt.

Rouire (M.). Les indigènes algériens. I. La suppression des anciennes institutions et la désagrégation de la société arabe. (R. d. Deux Mondes, Paris, 1909, xlix, 410-441.) Sketches the history of the protectorate in Algeria and its effect upon the native races, questions of ownership, property, the dispossession of the natives from the land, transformation of administrative, civil and judicial institutions of these peoples; results, precarious condition of the mass of the natives.

Rütimeyer (L.). Weitere Mitteilungen über westafrikanische Steinidole. (Int. Arch. f. Ethnogr., Leiden, 1908, xviii, 164-178, 2 figs., 2 pl.) Gives more data concerning the stone-idols of the Mendi region between Boom and Kitam.—according to the natives the original source is a sort of tumulus, but the later finds in other places seem to make this theory doubtful. The figures are mostly human and of steatite; they are "prehistoric" for this part of Africa.—interesting for comparison

are the sculptured stones of Agba (S. Nigeria), and perhaps the stone columns of Tondidaru, etc., discovered by Desplagnes. Comparison with wooden idols is also made. R. cites 18 new specimens (9 stone and 2 wooden are figured). As to the makers of these stone idols nothing certain is known.

Sarbah (J. M.). The oil-palm and its uses. (J. Afric. Soc., Lond., 1909, viii, 232-250, 4 pl.) Treats of varieties (4 chief ones, 5 others); cultivation (not yet systematical by land owners or farmers); productiveness; use of nuts as food; preparation of palm-oil in Abura, Krobu, Aberle, Pekki, Liberia, Kru coast, Lagos and southern Nigeria. Canteens, etc.; composition and uses of palm-oil, palm-kernels, kernel-oil preparations, palm-wine, "palm cabbage," etc. At pp. 248-249 are given some Tshi and Fanti proverbs relating to the palm tree.

Scenes in Africa. (Nat. Geogr. Mag., Wash., 1909, 292-301, 9 pl.) These illustrations (bark-carriers of German S. W. Africa, Angola family, morimbo or native piano, Congo mission children, native drums, King Boassine at Kumassi, Kroo warrior dressed for religious performance, Kroo children, "devil play" in Liberia) are of ethnologic interest.

Schlangenkult in Uganda. (Globus, Brnschw., 1909, xcvi, 35.) Résumés Rev. J. Roscoe's account, in *Man* for June, 1909, of the python cult formerly in vogue in a temple on the west shore of Victoria Nyanza, district of Budu. See Roscoe (J.)

Schrader (F.). Les origines planétaires de l'Égypte. (R. de l'Éc. d'Anthrop., de Paris, 1909, xrx, 15-27.) S. argues that "Egypt, with all that humanity owes to Egypt, is from the time of the first wonder of the savage at the yearly overflowing, a gift of the planetary or cosmic forces that produced the Nile"—a proof of how rudimentary the individual and society would remain without the stimulus of nature.

Schweinfurth (G.). Ueber altpaläolithische Manufakte aus dem Sandsteingebiet von Oberägypten. (Z. f. Ethnol., Berlin, 1909, xli, 735-744.) Notes on old-paleolithic artefacts

from the sandstone region of Assuan found in 1905-1906. These numerous finds suggest the future discovery in Egypt and southern Nubia of similar "stations." A pathway for prehistoric peoples antedating the civilization of Egypt lies hereabouts.

Sergi (G.) Sulla craniologia degli Herero. (Boll. R. Acc. Med. di Roma, 1908, xxiv, Estr. 19 pp., 2 figs.) Gives details of measurements, descriptions, etc., of 6 male crania of the Herero (a Bantu people of Damersland, German W. Africa) now in the museum of the Anatomical Institute of Berlin,—only two Herero skulls have been previously studied by Fritsch and Virchow. The cephalic indexes range from 67.5 to 72.9; cubic capacity from 1315 to 1390 cc., the largest occurring in a boy of 12. All the crania are dolichocephalic, orthocephalic, and present all the varieties of long forms (2 brachyoid, 2 ovoid, 1 ellipsoid, 1 pentagonoid). They are heavy, and in capacity are closer to the Kafirs of the S. E. coast, in cephalic index to the Bantu of Loanda and Benguela.

— Osservazioni su due cervelli di Ovambo ed uno di Ottentotto. (A. d. Soc. Rom. di Antrop., Roma, 1908, xiv, 139-147, 3 figs.) Describes with measurements two male Ovambo and one female Hottentot brains (all subjects about 20 years of age)—weights respectively 1335, 1132, 1201 gr. The data suggest that cerebrally, as well as craniologically, the Ovambo belong close to the Herero, while the Hottentot are in divers ways distinguished from both. Phylogenetically the Hottentot brain is not lower than the Ovambo.

— Su una deformazione dei denti in Abissinia. Introduzione allo studio dei crani di Kohaito. (Ibid., 197-202, 4 figs.) Treats of 6 male Kohaito skulls from a cemetery dating ca. 400-600 A. D., three days march from Zula, the ancient Adulis, all deformed by the removal of all the upper incisors. The distribution of this custom in Africa is noted (probably a puberty rite). The Kohaito skulls are Abyssinian in type.

Shrubbsall (F. C.) A brief note on two

crania and some long bones from ancient ruins in Rhodesia. (Man, Lond., 1909, ix, 68-70, 2 figs.) Describes with measurements a skull from the Chum ruins in the Gwanda district and another from an old mine-shaft nearer Bulawayo,—also left femur, radius and ulna and a right tibia from the Chum ruins. The conclusion reached is that "these remains are those of negroes of a similar type to those now found in Rhodesia."

Sibree (J.) General Gallieni's "Neuf ans à Madagascar": An example of French Colonization. (J. Afric. Soc., Lond., 1909, viii, 259-273.) Résumé and critique of Gen. G's *Neuf ans à Madagascar* (Paris, 1908). According to Rev. J. S., "the book has a great defect in that it almost entirely ignores what had been accomplished by Christian missionaries during the 33 years previous to French occupation in civilizing and enlightening the people of Madagascar, to say nothing of the foundation work done from 1820 to 1835 by the first L. M. S. missionaries."

Singer (H.) Das neue deutsche Kolonialprogramm und die Eingeborenenfrage. (Globus, Braunschwg., 1908, xciii, 203-205.) Discusses the new German colonial policy of Secretary of State Dernburg in regard to the aborigines of German Africa, which seems to indicate a higher official estimate of the Negroes and their economic value, as well as a more human handling of the whole question.

Smend (Ohlert.) Negermusik und Musikinstrumente in Togo. (Ibid., 1909, xciii, 71-75, 80-94, 39 figs.) Treats of music and musical instruments among the Negroes of Togo, German W. Africa. Drums (several varieties, of wood); string instruments (a very primitive one of palm-leaf stem and bast strings; similar instruments in Agu, Basari, etc., with gourd for resonance; the Ewe *tresongu*, the Hausa *môlo*; the Tshandyo *gonyé*, a sort of fiddle); wind instruments (simple horns, flutes and whistles of bamboo, plant-stems, wood; Hausa flutes of brass, etc.); rattles of various sorts. The "drum

language" (invented in Ashanti and introduced by Ewe who had been prisoners of war), is in use, and all drums serve for dance-music; special drums ("fetish drums") for religious and allied uses. No string instrument seems to be used in the dance; some are used by the cattle and horse herdsman. The *molos* are used for song accompaniment. The long trumpet called *kabatche* (from Sokoto) and others are used in marches, for signalling, etc. Rattles and bells are used to heighten the dance. Dances are of considerable variety. The underlying motives of song and dance are sex, war, hunting, family life, wickedness of man, wisdom of life, etc. German texts of 24 brief songs (10 Hausa) are given.

Spieß (C.) *Yevhe und Sɛ*. (Ibid., 1908, xciv, 6-7, 2 figs.) Brief account of the fetish *yevhe* whose cult has recently made its way (probably from the Agotime, who are Adanme from the Gold Coast) among the Ewe of Togo,—the *Yevhe*-stick, *Yevhe*-pots, etc.; and *Sɛ* (not to be confused with the Ewe god *Sɛ*), an iron rod with bells at the top, in use by the medicine-men.

Zubereitung und Anwendung einheimischer Arzneien bei den Ewe-negern Togo. (Ibid., 1909, xc, 281-286.) Brief description of 76 native medicines (all from plants) and their uses among the Ewe negroes of Togo. Also the native names of some 60 diseases, and 15 names for medicines of Europeans. The Togo natives distinguish 3 kinds of fever. The general term for "medicine" is *utike* (from *uti*, "tree," and *ke*, "root") or *amatti* (from *ama*, "plant," and *tai*, "water").

Starr (F.) Ethnographic notes from the Congo Free State: An African Miscellany. (Proc. Davenport Acad. Sci., Davenport, Ia., 1909, xii, 96-222, 13 pl., 72 figs.) Treats of the Batua (physical measurements of 25 men and 5 women; av. stature of Ndombe males 1511 mm., of those of L. Mantumba, etc., 1542; av. ceph. index 75.7 and 77.2); comparison between a pigmy, a dwarf and a Baluba boy; albinism (15 subjects, 4 examined; males more common than

females; actual number large); tooth-chipping (teeth of 900 soldiers examined, various types and combinations noted); games of Congo peoples (70 games described and many illustrated; imitative games 4, plays with simple toys, 6, athletic sports or exercises 9, athletic games with implements 13, round games 6, guessing games, etc., 13, games of chance and gambling games 10); string-figures and cat's cradle (72 described and figured,—all made by single players); proverbs of Upper Congo tribes (164 from Nkundu and 16 from Bopoto, native text, translation and application; English text of 44 Ntumba proverbs); stories (English texts of 7 Bobangi and 1 Feto; Two brothers; wife, husband and child; Mompana and his four wives; Pelepele and the tortoise; the tortoise and the eagle; the tortoise and the wild-cat; the dog and the *ucinga* fish; the jackal and the goat). In an appendix are given a Batua vocabulary of 83 words from Ndumbe (pp. 220-221) and a non-Bantu vocabulary of 50 words from Ndumgate. S. classes the Batua "with the true pigmies of the Ituri forest,"—though scattered, "they everywhere appear to have been the original inhabitants of the country."

Staudinger (P.) Ein grosses afrikanisches Steinbeil. (Z. f. Ethnol., Berlin, 1908, xi, 809-813, 1 fig.) Treats of stone implements in W. Africa, particularly a large amphibolite (slate) axe from Akem. None so large have hitherto been reported from this region. It is probably of a ceremonial nature, not an actual implement or a weapon.

Steinerne Pfeilspitzen aus Südwestafrika. (Ibid., 1909, xii, 270-272.) Note on some stone arrowheads from a cacao-field near Wal-fisch bay in the Hottentot country.

Buschmannphotographien. (Ibid., 272-273.) Notes on a number of photographs of Bushmen taken by Hr. F. Seiner, author of a work on the region between the Okavango and Zambezi, in the *Mitteilungen aus den Schutzgebieten* for 1903-1906. Some of the Bushmen represented seem to have Bantu blood.

- Stigand (C. H.)** Notes on the native tribes in the neighborhood of Fort Manning, Nyassaland. (J. R. Anthropol. Inst., Lond., 1909, xxxix, 35-43.) Treats of the Angoni, Achipeta, Achewa, Achikunda, and other minor tribes,—general characteristics, chiefs, tribal marks, value as soldiers, war-customs, arrow-poison, currency, etc. Tribal marks "are made when a man wishes, generally after puberty has been attained, but no compulsion is used." The Ayan "are essentially the best fighting men to be had in Central Africa, and perhaps the best to be had in the whole continent." The Achipeta largely use poisoned arrows, the Angoni spears. Axes and hoes are sometimes used as money.
- Struck (B.)** Eine vergleichende Grammatik der Bantusprachen. (Globus, Brunschwg., 1908, xciii, 271-273.) Résumé and critique of C. Meinhold's *Grundzüge einer vergleichenden Grammatik der Bantusprachen* (Berlin, 1906), which S. considers "the most important scientific contribution so far in the Bantu field."
- Zur Kenntnis des Gästammes, Goldküste I. (Ibid., 31-32.) Notes on cities of refuge (fleeing to a fetish) and servants of fetishes; account of a "palaver" or law-suit; a fable (how the deer became king); 12 proverbs (native text and translation). The Gã are a negro people of the Gold Coast.
- Ein Märchen der Wapare, Deutsch-Ostafrika. (Ibid., 1908, xciv, 111.) German text of a tale of a widow and her two sons, the first-fruits of investigation into the folk-lore of the Wapare, who speak the language called Thasu, closely related to that of Taveta.
- König Ndschoya von Bamum also Topograph. (Ibid., 206-209, 3 figs.) Reproduces and discusses the plans of his farm and the way from it to the town, made by King Ndjoja of Bamum (already noted for his other inventions), the inscriptions on them, etc. As a first attempt the effort is remarkable, with regard to both drawing talent and technique.
- Struyf (P. L.)** Aus dem Märchenschatz der Bakongo, Nieder-kongo. (Anthropos, Wien, 1908, iii, 741-766.) Gives native text and interlinear translation of 8 tales (Mother toad, Mother crab with her flat back, Young Mr Pungwa, Story of two brothers, The song of the old people, The tortured mouse, the gazelle and the leopard, The leopard and the greedy mouse) from the Bakongo of the lower Congo, 2 from Kimpako, 3 from Kisantu, 3 from Kianika.
- Taylor (J. D.)** Native progress in Natal. (So. Wknn., Hampton, Va., 1909, xxxviii, 27-36, 5 figs.) Notes on contrast between heathen kraal and houses of Christian natives, gardens, adoption of European dress, effect of school-house and of writing and printing, churches (native initiative marked), industrial progress, new individual instead of tribal unit, etc. From the blanketed kraal-man to the vision of the educated voter.
- Thompson (R. C.)** The ancient gold-mines at Gebet in the Eastern Sudan. (Man, Lond., 1908, viii, 70-72, 3 figs.) Account of visit made in 1906. The finds in the mines indicate that they are "not much more than 2,000 years old." Gold-mining is still carried on there. The ancient miners ground the quartz in stone hand-mills.
- Tor-Akobian (S.)** Das armenische Märchen vom "Stirnauge." (Globus, Brunschwg., 1908, xciv, 203-206.) Gives German text of the "tale of the man with an eye in his forehead," told in Tiflis by an old workman from Achalzich. This Armenian folk-tale belongs in the cycle of Polyphemus and Ulysses.
- Tuareg (Die) des Südens.** (Ibid., 183-188, 5 figs.) Based on Capt. A. Aymard's article on the southern Tuareg in the *Tour du Monde* for 1908. Notes on social divisions, the family (the first unity, like the Roman gens), slavery (production of mixed race of Tuaregs with female slaves and Sonrhai women), religion (Tuaregs are Mohammedans but neither very zealous nor fanatic; no mosques, no pilgrimages to Mecca; marabouts belong to certain tribes), *akirko* or medicine-men, spirits and gins (everywhere), character (not so flattering a picture drawn now as earlier by Duveyrier), woman and her position (monogamy; status high; woman can

divorce), children, inheritance, work, industry (chiefly in the hands of slaves and blacksmiths,—the latter Sudanese negroes, a caste by themselves).

Virchow (H.) Ueber die Zahnentstümmelung der Hereros. (Z. f. Ethnol., Berlin, 1908, xi, 930-932.) Describes the mutilation of the teeth, *mahina amajo* (teeth consecration) among the Hereros and the religious ceremonies and festivals connected therewith. The Hereros are exceedingly proud of their artificially modified teeth, which are now a national or tribal sign. At the "teeth festival" some 20 to 40 children (10-15 years) are operated upon at once. The Hereros can give no satisfactory explanation of the custom.

Weeks (J. H.) Anthropological notes on the Bangala of the Upper Congo river. (J. R. Anthropol. Inst., Lond., 1909, xxxix, 97-136, 9 figs.) Treats of clothing (some bark cloth; no special covering for genitals; plantain leaf as umbrella), personal ornaments (hair-dress; brass collars, armlets, anklets, etc., ivory anklets, armlets, etc.; belts; pregnant women painted by medicine man; incisor teeth cut to V-shaped points), painting and tattooing (3 varieties), ornamentation (herring-bone pattern on saucers, incised lines, lozenge pattern; drawings on houses and letters; first experiences with pictures in volume of *Graphic*), leather-work, string (made of bark of a water-plant), weaving, basket-work, pottery (3 kinds made by women), dyeing and painting, metallurgy (iron ore imported from the Lulanga river and smelted in native crucibles; blacksmiths honored as skilful men, but not treated with any superstitious fear), conservatism (natives are "quick to imitate where imitation is possible"; hindrance due to witchcraft, etc.), habitations (one house for each wife; processes of construction), fire (stick-rubbing, flint and steel; legends of origin of fire; purification by fire); food (eat all fish except the *wina* or electric fish; nearly all fish taboo to some one person or another; cassava chief vegetable food, evening meal only

real meal; palm maggots, bats, caterpillars delicacies; milk tabooed and abhorred, drinkers unclean; sweet potatoes never eaten by men; salt obtained from vegetable ashes; folklore about greediness; chief drink besides water is mango or sugar-cane wine; drinking-bouts common during sugar-cane season), cannibalism (very general in 1890), narcotics (tobacco not smoked by women), hunting and fishing ("making medicine," traps, pits; torching, "fences," basket-traps, angling, spearing, poisoning, nets, etc.), agriculture and farming (chief article cultivated is cassava; every woman has "her own farm"), education ("doctors"; imputed teachers of dance and song; games few), mental powers, etc. (very receptive and easily taught up to 14-15, especially boys, but after that "they have to make a continuous effort to retain any book-knowledge they may have received")—the psychological qualities and character of the natives are sketched.

— Notes on some customs of the Bangala tribe, Upper Congo. (Folk-Lore, Lond., 1908, xix, 92-97.) Cites items relating to death and burial, "witch-dolls," ordeal by drinking *nka* (pp. 94-97).

— Notes on some customs of the Lower Congo people. (Ibid., xix, 400-437; 1909, xx, 32-63, 182-201, 2 pl.) Treats of courtship and marriage, illness of children (witchcraft and poison-ordeal), pregnancy, child-birth (treatment, burial; twins; albinos), education of children, family and clan, chiefship, succession, death and funeral customs, spirits, hunting charms and fetishes (treatment and disposal of animals killed), dogs, "eating the goat," making war, treatment of mad people, markets and trade, barter, evil spirits, fetishes, God and Devil, cosmological ideas, totemism (few indications), hunting fetishes and "medicine," *ngangas*, or "medicine men" (182-188), secret societies and men's houses (189-201), etc. Eight sorts of divination are used by the *ngangas*.

Weiss (—) Die von der Expedition des Herzogs Adolf Friedrich zu Mecklenburg berührten Völkerstämme zwischen Victoria-Nyanza und Kon-

- gostaat. (Z. f. Ethnol., Berlin, 1909, xli, 109-113.) Notes the intelligent Wacheha or Wassiba of the Kissiba hill-country, the Wanjamba of the mountainous country of Karagwe and Mporo, the industrious Wahutu of Ruanda, all aborigines of the region and all Bantu; also the Batwa pigmies, and the Watussi or Wabima of Hamitic stock. The iron, wire and wood-work of the country is briefly described.
- Werner (A.) A native painting from Nyasaland. (J. Afric. Soc., Lond., 1909, viii, 190-192.) Treats of a colored painting of a man and a monkey on a wall of a hut in Mponda's village (his people are Machinga Yaos) on the Shire, near the lower end of L. Nyasa. These "hut-frescoes" may be due to an art handed down from Bushmen ancestors, e. g., among the Mfjange, Angoni, etc., who have a Bushmen element. These paintings are said to occur only where Bushman influence is traceable among the Bantu.
- Bushman art. (Anthropos, Mödling-Wien, 1909, iv, 500-504, 1 fig.) Treats particularly of a painting of a man and a monkey on a hut-wall at Mponda's village on the upper Shire. Evidently same as noted in previous article.
- Wiedemann (A.) Totenharken im alten Ägypten. (Globus, Brnshwg., 1908, xciv, 119-123, 2 figs.) Treats of the "boats of the dead" (row-boats and sail-boats) in ancient Egyptian, their structure, equipment, etc., models of such vessels for placing in graves, etc. Plastic and relief or painted models are found together as early as the Nagada period ante 3000 B. C. Based partly on J. G. Garstang's *The Burial Customs of Ancient Egypt* (London, 1907).
- Willans (R. H. K.) The Konnoh people. (J. Afric. Soc., Lond., 1909, viii, 130-144, 288-295.) Treats of habitat, religion ("while acknowledging one supreme deity in heaven essentially stone and ancestor worshippers"; "happy belief" regarding death,—"a clean slate to start with again), customs (practically identical with those of Mendi and Koranko), folk-lore (English texts of 6 tales: Three kinds of women, first war, Tambafassa, How jealousy spoiled the rice, division, Jumba and Bay Marringa,—Jacob and Esau), history as nearly as possible in words of native informants (romantic period, traditional period founded on fact), creation-myth, hunting-customs, etc.
- Wolf (F.) Grammatik der Kposo-Sprache, Nord-Togo, West-Afrika. (Anthropos, Wien, 1909, iv, 142-167, 630-659.) Outline of grammar of Kposo (2 dialects), a negro language spoken by 17,000-20,000 people in northern Togo Land, West Africa. Phonetics, noun (prefixes, suffixes, place-names, composition, number, gender, case, article), adjective, numerals, pronouns, verb, adverb, etc. At pp. 648-659 are given native texts with interlinear translations.
- Wollaston (A. F. R.) Amid the snow-peaks of the Equator: a naturalist's explorations around Ruwenzori, with an account of the terrible scourge of sleeping sickness. (Nat. Geogr. Mag., Wash., 1909, xx, 256-277, 1 fig., 8 pl.) Abstracted from author's *From Ruwenzori to the Congo* (London, 1909). Contains a few notes on pigmies, people of Kivu (fire-making, beads). Some of the illustrations (pigmy lady, tattooed beauty, ivory carriers, tattooed girls, fire-making, village scenes) are of ethnologic value.
- Work (M. N.) The African family as an institution. (So. Wkman., Hampton, Va., 1909, xxxviii, 343-353, 433-440, figs.) Treats of the social importance, composition, and inner life of the African family. Based upon Cunningham, Johnston, Leonard, Kidd, Stow, Ellis, Schweinfurth, Cruikshank, Mockler-Ferryman, Deunett, Hayford, etc. According to Prof. W. "among no other people is the family relatively more important than among the Africans, who are very human," and "in their love affairs, divorces, and social life they are very much like other people."
- An African system of writing. (Ibid., 1908, xxxvii, 518-526.) Brief account of the writing of the Vai or Vei negroes, with reproduction (pp. 522-526) of the original

and modern symbols from Sir H. Johnston's *Liberia* (London, 1906).

Zur Frage nach dem Alter der Ruinen Rhodesias. (Globus, Brnswgw., 1908, xciii, 16.) Résumés two articles by R. N. Hall in *The African Monthly* for 1907 on *The prehistoric gold mines of Rhodesia* and *Notes on the Traditions of South African Races, especially of the Makalanga of Mashonaland*.

ASIA

Ancient (The) Symbol of the double eagle. (Open Ct., Chicago, 1909, xxiii, 51-58, 2 figs.) Brief account of a *garuda* or double-eagle from the ceiling of one of the very oldest caves near Oyzl in the mountain range near the city of Kutcha, found by Prof. Grünwedel. Another double-eagle occurs in the rock-sculptures at Boghaz Koi, Phrygia.

Aston (W. G.) A Japanese book of divination. (Man, Lond., 1908, viii, 116-120, 1 fig.) Résumés and discusses *Kwannon Hiakusen*, or "Kwannon's Hundred Divining-Sticks," in the preface of which is related a legend of its "introduction from China in the tenth century by a Buddhist dignitary." The authoritative part of the book is the Chinese poetry (4 lines for each stick). The drawing of the sticks and numbers is fully treated by the Japanese author. There is plenty of good advice and the moral tone is high.

Aurel Steins zentralasiatische Forschungsreise. (Globus, Brnswgw., 1908, xciii, 337-338.) Résumés data in article in *The Geographical Journal* (London) for May, 1908.

Bacot (J.) Anthropologie du Tibet. Les populations du Tibet sud-oriental. (Bull. Soc. d'Anthrop. de Paris, 1908, v^e s., ix, 463-473, 9 pl.) Treats briefly of the Mossos (Sinicized in dress, manners, and largely also in speech), Lissus (conservative and resisting Tibetan absorption), Lutzes (of same stock as Kiutzes; quite primitive, peaceful, little agriculture), and Tibetans in general (population; family, birth, death, houses, food, clothing, hygiene, religion, etc.) The Tibetans are in general young and healthy in spite of centuries of the burden of superstitious; they are gay,

sober, hospitable, happy (having few needs), credulous (because they are children), etc. See Delisle (F.).

Belck (W.) Die Erfinder der Eisen-technik. (Korr.-Bl. d. D. Ges. f. Anthrop., Brnswgw., 1908, xxxix, 100-107.) Argues that the Philistines were the originators of the iron industry.

Bease (L.) Another word about the Todas. (Anthropos, Wien, 1908, iii, 799-800.) Notes that several copies of letters and other missionary MSS. were often made and distributed in Europe. See *American Anthropologist*, 1908, n. s., x, 321.

Bittner (M.) Ein armenischer Zaubersreifen. (Ibid., 1909, iv, 182-189.) Detailed account of an Armenian paper-strip of magic texts, drawings, etc., representing Mahometan-Christian superstition. Noteworthy are the magic squares, "charmed circles," lists of demons, etc. In it is mentioned "God with 1001 names," "God 22223 times beloved," "to be obeyed 66666 times."

Boehmer (J.) Jericho. (A. f. Religsw., Lpzg., 1909, xii, 322-334.) Treats of pre-Israelitish and later Jericho, or rather the successive Jerichos (different in extent) that have existed. A complete destruction by the Israelites did not occur. The Herodian Jericho is represented by the modern Riba. The fertility of Jericho in ancient times leads us to believe that the rose found there still may be the "rose of Jericho." The name *Jericho* does not mean "city of perfume," but "the lunar one."

— Tabor, Hermon und andere Hauptberge. Zu Ps. 89, 13. (Ibid., 313-321.) Argues that in this passage the Psalmist has preferred Tabor over Carmel by reason of its ancient use as a sacred place, where a sanctuary existed from time immemorial.

Bonifacy (—) Les Kiao Tchê, étude étymologique et anthropologique. (Bull. Soc. d'Anthrop. de Paris, 1908, v^e s., ix, 699-706.) Discusses the etymology of the name *Kiao Tchê* (signifies not "crossed toes," but "feet that turn in somewhat"), now applied by the Chinese to the Annamites, but formerly signifying more broadly "Barbarians of the South,"—

a case of generalization on the basis of a rare physical peculiarity, with notes on several cases of the separation of the big toe, with anthropometric data (height, cephalic index, size of ear, mouth, nasal index).

Brown (R. G.) Rain-making in Burma. (Man, Lond., 1908, VIII, 145-146, 1 pl., 3 figs.) Notes on the water-festival (annually in April) at Dedayé, a pageant representing legendary persons; the rain-making tug-of-war (young people of the village pull against each other); setting the image of Shin Upāgōk (a rain-god), one of Buddha's disciples, out in the broiling sun; washing the cat,—all Burmese rain-making methods.

— Cheating death. (Ibid., 1909, IX, 26.) Note on a peculiar mock-funeral for a boy at Dabein, Pegu.

Caius (T.) Au pays des castes. (Anthropos, Wien, 1908, III, 637-650, 3 pl., 1 fig.) Continuation. Treats of *Karmmas* or religious observances (5 are briefly described; at pp. 642-647 the 28 constellations and their omens are listed). At pages 648-650 long lists of names of men and women are given.

Cartij (P.) Moralité, sanction, vie future dans le Védanta. (Ibid., 1908-1909, I.) After brief historical *aperçus*, Father C. discusses the illusion and its consequences (*atman* or soul absolute and individual; all is illusion save the absolute *atman*, the true Brahma), retribution and its mechanism (the Hindu fundamental moral principle is the law of *karma*), etc.

Carus (P.) Healing by conjuration in ancient Babylon. (Open Court, Chicago, 1909, XXIII, 67-74, 6 figs.) Based on Dr K. Frank's article in the *Leipziger Semitische Studien*, III, No. 3, dealing with a bronze tablet with a conjuration scene.

— The Venus of Milo. (Ibid., 1907-1908, 4 figs.) Gives history of famous statue in the Louvre. C. thinks that "there is no question that the statue represents Aphrodite, the goddess of love and beauty," and that it is "one of the greatest masterpieces."

— The Buddha of Kamakura. (Ibid., 1907-1908, 6 figs.) Brief account of the colossal statue of Ami-

tabha, the Buddha of everlasting light, erected in 1252 A. D. at Kamakura, Japan.

— The mosque of Omar. (Ibid., 1907-1908, 2 figs.) The mosque of Omar in Jerusalem covers the holy spot of the temple, the holy of holies, once the threshing-floor of Arauna, the place of the vision or theophany of David.

— Japan's seven jolly gods. (Ibid., 1907-1908, 6 figs.) Treats briefly of Bishamon (god of strength and victory), Benzaiten (goddess of love and beauty), Daikoku (god of the well-to-do farmer), Ebisu (worshipped by traders), Fukurokuju and Jurōjin (gods of longevity), Hotēi (god of mirth). These symbolize "the ancient Japanese contentedness and merry humor of its simple life," now perhaps being swept away.

— The Samaritans. (Ibid., 1908, XXII, 488-491.) Brief résumé of Dr J. A. Montgomery's *The Samaritans; the Earliest Jewish Sect* (Phila., 1907). The Samaritans are dwindling rapidly, "and it is the last moment that we can still study their religion and traditions in living examples."

Casartelli (L. C.) Hindu mythology and literature as recorded by Portuguese missionaries of the early 17th century. (Anthropos, Wien, 1908, III, 771-772, 1907-1908, I.) Treats of death and resurrection of Ramā; death of Cushman (Krishna); story of the faithful maid Mellipray; sects, castes, etc. See *American Anthropologist*, 1907, N. S., IX, 418.

Chalatiens (B.) Die iranische Helden-sage bei den Armeniern. Nachtrag. (Z. d. V. f. Volksk., Berlin, 1909, XIX, 149-157.) Gives German texts of 3 Iranian-Armenian hero-tales, originally appearing in the *Ethnographic Review* of Tiflis for 1906: "Rustam-Zai," "Gahraman Gathl," and "King Xosrov."

— Armenische Heiligenlegenden. (Ibid., 1907-1908, 361-369.) Gives German version only of 3 American legends of saints: Elexanos, Alexan, Kaguan Aslan.

Chémali (B.) Mœurs et usages au Liban. (Anthropos, Wien, 1909, IV, 37-53.) First part of account of manners and customs in the Lebanon

country of Syria (death and funeral, etc.). Death-announcement and songs connected therewith, condolences, etc.; burial and funeral songs,—very numerous, but of three chief sorts (*antari* or warrior, elegiac, women's). Specimens of these are given, with music and some of the native words.

Climate (The) of ancient Palestine. (Rec. of Past, Wash., D. C., 1909, VIII, 140-144, 3 maps.) Based on article by E. Huntington in *Bull. Amer. Geogr. Soc.*, Sept.-Nov., 1908, showing the "great change (less rainfall, more desert) in the climate of Palestine and the regions adjoining, since Bible times."

Crooke (W.) Some notes on Indian folk-lore. (Folk-Lore, Lond., 1909, XX, 211-213.) Items concerning buried treasure and snakes, sex-metamorphosis, disposal of the teeth, scape-goat, annual mock-hunt and ceremonial bathing of the gods, from Anglo-Indian newspapers.

— Death; death rites; methods of disposal of the dead among the Dravidian and other non-Aryan tribes of India. (Anthropos, Mödling-Wien, 1909, IV, 457-476.) Treats of the conception of death as not due to natural causes (but to evil spirits, witches, "evil eye," etc.), identifying the disease spirit by divination, conception of the soul, the separable soul, plurality of souls, the soul mortal, the disembodied soul and its refuge, entrapping the soul, the soul abiding near the scene of death and near the grave, importance of funeral rites, the soul friendly or malignant in relation to the survivors, relations of the living to the friendly souls, provision of fire and light for the spirit, removal of friendly spirits, giving free egress to the departing soul, the death wail, articles placed with the dead, pretence in providing these offerings, arms, implements, etc., placed with the dead, clothing and ornaments for the dead, victims slain as attendants on the dead, blood sacrifice to the dead, drink and food for the dead, etc.

Delisle (F.) Sur les caractères physiques des populations du Tibet

sud-oriental. (Bull. Soc. d'Anthrop. de Paris, 1908, V^e s., IX, 473-486.) Treats, with average measurements, of physical characters (color of skin, eyes, hair; stature, height sitting, form of head, face, nose, finger-reach) of 62 individuals,—male 43, female 19,—from S. E. Tibet (Minkia, Lolos, Lutres, Liasus, Mossos, Tibetans); also describes, with measurements, an adult male skull (dolichocephalic, hypsicephalic) from the same region,—all data due to J. Bacot (q. v.).

Of the men measured 7 and of the women 12 were below 1500 mm. in height; 8 men were above 1700. The order in stature of men is Mossos, Lutres, Liasus, Lolos, Tibetans; women Lolos, Tibetans, Lutres, Mossos. The cephalic indexes of the men range from 70.82 to 83.71, the general averages for the various tribes being all sub-dolichocephalic and mesaticephalic; women 71.71 to 84.06, with a greater tendency toward brachycephaly.

Der chinesische Küchengott. (Globus, Brunschwg., 1908, XCIII, 305.) Brief résumé of article on the Chinese "kitchen-god" by Nagel in the *Archiv f. Religionswissenschaft*.

Deyrolle (—) Un sécateur indochinois. (Bull. Soc. d'Anthrop. de Paris, 1908, V^e s., IX, 382-383, 1 fig.) Describes a rice-cutter in use among the Mans of the valley of the Song-Chay, between Luc-an-chau and the old post of Pho-rang. The use of this instrument is difficult for Europeans, on account of the different manipulation of the fingers.

Dols (J.) L'enfance chez les Chinois de la Province de Kan-sou. (Anthropos, Wien, 1908, III, 761-770, 5 pl.) Treats of childhood among the Chinese of Kansu. Birth (abortion, sterility and the divinities invoked, child-bearing, name-giving, infant life), instruction (numerous schools, also mandarin schools and "university"). The "university" at King-yang has a primary section for children and one for boys of 15-20. Astronomy, mathematics and gymnastics are taught.

v. Domaszewski (A.) Der Kalender von Cypern. (A. f. Religsw., Lpzg., 1909, XVII, 335-337.) Discusses the

Roman provincial calendar of Cyprus, dating from 12 B. C., and an older form discovered by Usener and Boll. The origin from Paphos is shown in the derivation of the *Julii* from Aphrodite. The changes in the month names in the second list were occasioned by the catastrophe that overtook the Julian house through Julia in 2 B. C., and the deaths of Agrippa, Octavia and Drusus.

Ein Hindu über das indische Kastenwesen. (Globus, Brunschwig, 1908, xciii, 383.) Briefly résumés an article on the caste-system of India by K. B. Kanjilal, a Hindu, in the *Calcutta Review*. Reform and liberalizing of the system, not abolition, are the steps to be taken, according to K.'s view.

Fischer (A.) Erfahrungen auf dem Gebiete der Kunst und sonstige Beobachtungen in Ostasien. (Z. f. Ethnol., Berlin, 1909, xii, 1-21, 18 figs.) Based on art-objects, etc., collected in 1907-1908 for the Berlin Ethnological Museum: Three Japanese statues of the 6th and 7th centuries showing Hindu-Greek style; an artistically finished wooden statue of the goddess of mercy from the Korean-Japanese period (also from this epoch a statue of *Kanishin* or dried lacquer of interest for the Greco-Hindu and pure Hindu style); pre-Buddhist sacrificial stone (man and woman) sculpture from Yamato (now in the garden of the Ueno Museum in Tokyo); life-size wooden statue of the god Enno Gyoja (old Buddhist, 7th century); kneeling statue of the demon Myodoki; life-size statue of Jizo by the founder of the Jocho school (11-12th cent.) of sculptors; the great Shakyamuni statue of bronze in the temple of Ta-to-ssu in the ruined city of Cheng-ting-fu (Chili), dating from the Sung dynasty, 960-1127; the Korean hat, vehicles, etc.; the subterranean stone chamber (of the Silla period, 57-928 A. D.) near Taikyū; mile-stones of wood with human faces, etc.; Buddhist influences on art, etc., in Korea; old Chinese paintings (the Japanese have collected them as connoisseurs for

1,200 years); stone-sculpture in China (at Confucian temple at Ki-fu, highest limit of Chinese stone sculpture,—Chinese are not at all so successful in stone as in clay); pre-Buddhist stone reliefs from grave-chambers (3 from the Han period, 206-221 A. D.) and grave-stones (here F. seeks to detect Assyro-Babylonian influences); sculptured stones and columns from temples, altars, etc.

Franke (O.) Die Ausbreitung des Buddhismus von Indien nach Turkistan und China. (A. f. Religsw., Leipzig, 1909, xii, 207-220.) Treats of the spread of Buddhism from India to Turkistan and China, one of the most remarkable phenomena in the history of the intellectual life of mankind. The variety of Buddhism which made its way thus into China was the form dominant in N. India, the Hinayāna system of the Mūlaarvāstivāda school, at the close of the first century B. C.

Gaupp (H.) Vorläufiger Bericht über anthropologische Untersuchungen an Chinesen und Mandchuren in Peking. (Z. f. Ethnol., Berlin, 1909, xii, 730-734.) Preliminary notes on measurements, etc., of 38 Chinese and 5 Manchus, and 3 Mongols in Peking. The stature of the first averaged 1,674 mm., of the second 1,710, of the third 1,650; the average cephalic indexes were 80.4, 83.3, 81.5. North Chinese and South Chinese differ in face-type. Manchurian women are less Mongolian than the Chinese. The Chinese have long arms and short legs, the Manchus longer legs. Certain differences exist in symphysis-height. The measurements of 220 Chinese boys and girls indicate a noticeable cessation of growth in the period from the 14th to the 16th year. Chinese new-born children are smaller than those of the white race, although the pelvis is about the same in women of both races. Secondary sexual characters are less marked in Chinese women than in European. The "blue Mongolian spots" are common in Chinese, Mongol and Manchu children. A high fertility for mothers and a high mortality for infants are noted.

Gilhodes (C.) *Mythologie et Religion des Katchins, Birmanie.* (Anthropos, Wien, 1908, III, 672-679; 1909, IV, 113-138.) Gives the mythological and religious ideas of the Kachins or Chimpans of N. and N. E. Burma: The origin of things (4 generations from the male element of fog or vapor and a female element); origin of the great *nats* or spirits (9 born of Janun); origin of fathers, mothers of many things; *Ningkong wa* makes the earth, a palace, names animals, opens paths, makes waves, makes princes and kings; the deluge and the adventures of the two orphans, repopling of the earth; origin of knowledge, riches, wind, spirits, sacrifices, use of meat, death, rice and cotton, fire, water, loss of speech by animals; origin of sun, moon, stars, eclipses, thunder and lightning, knives, lords and kings of Europe; *Ningkong wa* marries Madam Crocodile, origin of the small feet of the Chinese, of thread, straw, hair, beauty, flutes, salt, heart-fat, liver, lungs; *nat*-feast of *Ningkong wa*; story of *Ningkong wa*'s first children, legend of *Jathoi*; origin of the *manau* vow, of the *jathuns* (evil spirits); genii of hunting and fishing; origin of madness, of *sarons*, *lasas* and *'ndongs*, *marawngs*; of sorcerers, sun-sacrifices, sacrifices to the "son of thunder"; origin of officers and cult-objects, rice-beer; origin of marriage (for the people and for princes); marriage of the grandson of *Ningkong wa*; *manau* of *Ka-ang du-wa*; the genealogy of the Kachin chiefs. At pages 134-136 are given 3 fables (crow and heron, two children, two orphans), p. 137 some auguries and pp. 137-138 five proverbs with native text.

— La religion des Katchins, Birmanie. (Ibid., 1909, IV, 702-725). Treats of the nature (according to bards and priests), cult (invocations, offerings), etc., of the *Karai Kas-ang* or supreme being), *nats* and ancestors (nature, residence, good and bad *nats*), cult of *nats* and ancestors (officials and cult objects, ways of honoring the *nats*, offerings and sacrifices), life and death, other-world

ideas, spirit-world, paradise and hell, etc.

Giuffrida-Ruggeri (V.) *Les crânes de Myrina du Musée impérial de Vienne.* (Bull. Soc. d'Anthrop. de Paris, 1908, v^e IX, 162-167.) Gives chief measurements, etc., of 16 crania (now in the Imperial Museum in Vienna) from the necropolis of Myrina in Asia Minor,—the Greek population was "dolicho-mesoccephalic with a slight tendency toward brachycephaly." The face measurements are less homogeneous. The capacities of 10 male crania ranges from 1359 to 1867; the 3 female from 1286, 1369, 1396 ccm.

Goldziher (I.) Alois Musil's ethnologische Studien in Arabia Petraea. (Globus, Braunschwg., 1908, XCIII, 280-285, 5 figs.) Résumés some of the data in A. Musil's *Arabia Petraea*. III. Bd. *Ethnographischer Reisebericht* (Wien, 1908). Musil's account of the life of the modern Beduins has been styled "a living commentary on ancient Arabian poetry." Much information about religion and superstition is given by Musil, whose book is a rich mine for the ethnologist and folklorist. Interesting is the *Ummal-gheth*, or "rain-mother," ceremony in case of drought. Some curious cases of contact and mixture of Islam and Christianity occur.

Gottheil (R.) The *cadi*: the history of this institution. (R. d. Et. Ethnogr. et Sociol., Paris, 1908, I, 385-393.) According to Rabbi G. while, "in the elaboration of the manner in which the *cadi* held court, Roman and Persian examples exercised an influence," the origin of the whole system is not, as Tarrago holds, to be seen in those directions. The *cadis* were in many ways important personages in Mohammedan civilization.

Grignard (F. A.) The Oraons and Mundas from the time of their settlement in India. An essay of constructive history. (Anthropos, Wien, 1909, IV, 1-19, 2 pl., map.) Discusses the data in the Mahabharata and the Ramayana and their reliability; identity of the *Karusas* tribe of heroic times with the modern Oraons and of the *Rākshasas* with

the Kārushas (Oraona).—according to Father G. "Rākshasas, as applied to aborigines, is nothing else than a wilful mispronunciation of the word Kārusha." The history and migrations of the Oraon, Male and Munda tribes, from about 1000 B. C., are sketched, down to submission of the Mundas in 1832. The illustrations figure Oraon types.

Harris (E. L.) The ruined cities of Asia Minor. Some ruined cities of Asia Minor. The buried cities of Asia Minor. (Nat. Geogr. Mag., Wash., 1908, XIX, 741-760, 11 pl.; Ibid., 834-858, 2 figs, 17 pl.; Ibid., 1909, XX, 1-8, 10 pl.) Treats of the ruins of Tralles (buried under olive orchards), wealthy Laodicea (once the chief emporium of Asia Minor), Hierapolis (with its Plutonium, theaters, mausoleums, four necropolises, etc. Lesbos or Mitylene (traces of walls of ancient Lesbos; medieval castle), Ephesus (theater, temples), Magnesia (only the Gypsy seems now to thrive near it), Miletus (seat of the Ionian school of philosophy; theater), Priene (temples and private houses; once a great religious center); Colophon (great wall, necropolis; one of the claimants as the birth-place of Homer); Magnesia (with the figure of Niobe on Mt. Sipylus), Sardes (city of Croesus), Philadelphia (historic for Christianity), Aphrodisias (very imposing ruins; named for Aphrodite), Pergamus (famous for its library and for parchment), etc. Besides the archeological remains, the illustrations treat of such modern topics as ploughing, gold-washing, shepherds, goat-herds, school-children, street scenes, types of natives, etc.

Hartmann (R.) Wādī Fāra. (Globus, Brnschw., 1908, XCIII, 205-208, 5 figs.) Brief account of the Wādī Fāra, a rocky valley north of Jerusalem, the resort of early Christian hermits, and before that known as a secret place for the hiding of treasure.

Headland (I. T.) Chinese children at play. (Everyb. Mag., N. Y., 1909, XXI, 201-211, 8 figs.) Brief descriptions of "blind man's buff," "hawk and chickens," "riding the elephant"

(a distinctively Chinese game), "the way to the village of the Liu family," "host and guest," shows for children (Dr. H. says "Punch and Judy" originated in China), "selecting fruit" (*sui generis*, according to H.), "skinning the snake," "forcing the city gates," etc. As a rule boys and girls do not play together, but some of the games of both sexes are quite alike. A counting-out rhyme (with the foot) is cited on p. 210.

Hedin (S.) En resa i Tibet 1906-1908 (Ymer, Stockholm, 1909, XXIX, 161-196, 14 figs.) Contains some notes on peoples, ruins, etc., met with in travels in Tibet in 1906-1908.

Henderson (A. E.) The Croesus (VIth century B. C.) temple of Artemis (Diana) at Ephesus. (Rec. of Past, Wash., 1909, VIII, 195-206, 6 figs.) Gives results of excavations of 1904 and 1905, with plan of proposed restoration. Remains of three primitive structures were discovered.

Hertel (J.) Der Kluge Vezier, ein zasmirischer Volksroman. (Z. d. V. f. Volksk., Berlin, 1908, XVIII, 379-393.) Concluding section of German version of Cashmir folk-tale of the wise vizir.

Hildburgh (W. L.) Notes on Sinhalese magic. (J. R. Anthropol. Inst., Lond., 1908, XXXVIII, 148-206, 6 pl.) Treats of magic in general and astrology, miscellaneous magic (charmers, love-charms, charms to secure favor, injury and killing of enemies, change of appearance and invisibility, charms used by or against thieves, gambling, amusing and trick charms, divination), curative magic (devil-dancing, punishing devils, curation practices of many sorts), protective magic (perils, infants, houses, crops, cattle) and amulets. The information has been obtained in nearly all cases "direct from believers in, or practitioners of, the matters discussed," and "principally from Sinhalese, but partly from Tamils, and, in a very small measure, from Indian Moham-medans." The material here given is supplementary to that already published by J. Callaway, E. Upham, D. De Silva Gooneratne and A. Grünwedel. "Devil-dancing" is considered with some detail (169-174), also

- votive offerings, etc. Many data for comparison with European folk-lore occur in these pages.
- Hinke (W. J.)** Legal and commercial transactions chiefly from Nippur. (Rec. of Past, Wash., D. C., 1909, VIII, 11-19, 4 fgs.) Based on A. T. Clay's *Legal and Commercial Transactions dated in the Assyrian, Babylonian and Persian Periods, chiefly from Nippur* (Univ. of Penn., 1908). Cites examples of seals, sales, leases, ejectment, records of debts, memorandum of payments, receipt of taxes, promissory note, transfer of office, etc.
- Hodson (T. C.)** Head-hunting among the hill-tribes of Assam. (Folk-Lore, Lond., 1909, XX, 132-145, 5 pl.) Treats of head-hunting in connection with foundation-sacrifice, tree-burial, sacred stones, funeral ritual, of ceremony (fascination), oneiromancy, marriage, religion, etc. Head-hunting cannot be reduced to a single formula. In some cases it may be no more than a social duty.
- Hoffmann-Kutschke (A.)** Indogermanisches. (Globus, Brunschwg., 1909, xcv, 304.) Calls attention to the Iranized old Caucasian element in Tocharian, the newly discovered Indo-European language of ancient Central Asia, and points out that its character is not at all inconsistent with the theory of the European origin of the Aryans.
- Holbé (T. V.)** A propos des dents noires des Annamites et de la chique de bétel. (Bull. Soc. d'Anthrop., de Paris, 1908, v^e, ix, 671-678). Discusses betel-chewing and the black teeth of the Annamese, and gives (p. 675) the legend concerning the origin of this ancient custom. Discusses also the lackering of the teeth by professionals from Tonkin. Both these processes blacken the teeth. In the discussion Dr Atgler added some facts.
- Holm (F. V.)** The Holm-Nestorian expedition to Sian, 1907. (Open Ct., Chicago, 1909, XXXI, 18-28, 6 fgs.) Account of author's visit to Sianfu in 1907 and how he obtained a replica of the famous Nestorian Stone or *Chingchiapet*, a Christian monument dating from 781 A. D. The replica is now in the Metropolitan Museum of Art, New York.
- Hosten (H.)** Pahāriā burial customs, British Sikkim. (Anthropos, Mödling-Wien, 1909, IV, 669-683, 2 pl., 1 fg.) Details chiefly from the dictation of an intelligent native Christian 18 years old, concerning the burial customs, ceremonies, beliefs, etc., of the zamindār or land-owner castes of the Pahāriās near Kurseong, who "in language, features, customs and religion . . . are nearest of kin to the Nepalese, their neighbors." Treatment of dying man, preparation of body, funeral cortège, *jādāgar*, or "medicine-man," and his performances, burial, mourning, treatment of living, day of purification, work of brahman, *phalainchā* or road-seal in memory of dead, banquet, dancing and other elaborate ceremonies, etc.
- Hughes (T. P.)** The modern Gandhara. (Open Court, Chicago, 1909, XXXI, 75-78, 3 fgs.) Notes on the city and people of Peshawur, which occupies the site of the ancient Buddhist city of Gandhara.
- Huntington (E.)** Life in the great desert of Central Asia. (Nat. Geogr. Mag., Wash., 1909, XX, 749-760, 12 fgs.) Based on author's travels in 1903. Contains notes on Kurds and Turkomans.
- The mountaineers of the Euphrates. (Ibid., 142-156, 8 fgs., 3 pl.) Treats of the Kurds, Armenians, Turks. Religion (in many places all reverence the same shrines, probably old pagan holy-places, etc.; shrines of Musbar Dagb); inflated rafts of sheepskin and inflated goatskins for swimming across rivers, as in ancient days; ancient castle of Gerger.—Hittite, Roman Saracen; old Syrian monastery, etc.
- Jacobi (H.)** Ueber Begriff und Wesen der poetischen Figuren in der indischen Poetik. (Nachr. v. d. Kgl. Ges. d. Wiss. zu Göttingen, Phil.-hist. Kl., Berlin, 1908, 1-14.) Treats of the alamkāras, from which Hindu poetry receives its name of alamkāraśāstra; they are very highly developed and have been keenly studied.
- Jaekel (O.)** Herkunft chinesischer

Stilfiguren von primitiven Vasenreliefs. (Z. f. Ethnol., Berlin, 1908, XI, 932-942, 5 figs.) J. argues that the conventional figures (lion, dragon, mountains, waves, etc.) of old Chinese clay vases are imitated from those on older bronze vases of western Asiatic, perhaps Babylonian origin. In the discussion Hr Messing points out that J. overlooks the great antiquity of bronze in China. Some of the art-objects in question are undoubtedly Chinese in origin.

Janke (A.) Die Bagdadbahn und der Gülek Boghas (Cilicische Tore) im Taurus. (Globus, Brunschwg., 1909, xcv, 201-206, 8 figs.) Contains a few notes on the ruins in the Cilician Pass in the Taurus. See also the author's book *Auf Alexanders des Grossen Pfaden*.

Jochelson (W.) Die Riabouschinsky-Expedition nach Kamtschatka. (Ibid., 1908, xciv, 224-225.) The ethnological section of the Riabushinsky expedition to Kamtschatka was headed by W. Jochelson, assisted by his wife (Dr Jochelson), and A. Koschewoi. The stay in Kamtschatka will be one year,—the first year to be devoted to a study of the Aleuts, language, archeology, etc. Excavations will also be made on the Kurile Is.

Some notes on the traditions of the natives of northeastern Siberia about the mammoth. (Amer. Nat., N. Y., 1909, XLIII, 48-50.) According to the Yukaghir the mammoth, whose spirit is the guardian spirit of certain shamans, was created through a blunder of the Superior Being. One legend connects the disappearance of the mammoth with Noah's flood. The Chukchee look upon the the mammoth as "the reindeer of evil spirits." The export of mammoth ivory from Siberia is still considerable,—in 100 years the tusks of 24,500 mammoths have been sent out of the province of Yakutsk.

ten Kate (H.) Notes détachées sur les Japonais. (Bull. Soc. d'Anthrop., de Paris, 1908, v^e s., IX, 178-195.) Treats of prostitution (Japanese prostitute is known outside of her own country in China, Manchuria, part of Siberia, Saghalin, Korea,

Pacific N. America, E. Indies, E. Africa, Brazil, Argentina, etc.); character and physique of woman (not really beautiful, *contra* Stratz, first impression only is favorable; but fewer ugly women than men); Aino mixture (more important than commonly thought; has produced certain physical improvements); question of Malay element (undoubtedly present) and of Negritos (author thinks this element negroid rather than negritoid and due to a somewhat recent métissage with slaves from the Philippines, Macao, etc.); religiosity (deeply religious but not generally fanatic; mikadoism and patriotic cult, however, are fanatic); formalism and politeness (excessive), attitude toward other Asiatic peoples (arrogant; e. g., even "prostitutes despise the Annamese"); lack of originality and physiological pseudo-stupor; esthetic sense (marked by impersonality, suggestibility, and certain degeneracy due to contact with or imitation of Occidentals); moral (official changes without influence on the "soul of the people"). Dr t. K. does not consider the Japanese intellectual *élite* the equals of those of the white race.

Zur Erwiderung an Herrn E. Prost in Stettin. (Int. Arch. f. Ethnogr., Leiden, 1909, XIX, 35-36.) Replies to P.'s criticism of ten K.'s "unfavorable opinion" of the Japanese.

Weiteres aus dem japanischen Volksglauben. (Globus, Brunschwg., 1908, xciv, 373-378.) Gives numerous items of Japanese folk-lore and folk-thought concerning magic, fortune-telling, dreams; medicine and disease; astrology, mythology, religion, etc. The time is not long past when many of these superstitions and primitive ideals were to be found in even the official and educated classes. No psychic "mutation" involving the whole people has taken place in Japan.

Kern (R. A.) A Malay cipher alphabet. (J. R. Anthropol. Inst., Lond., 1908, XXXVIII, 207-211, 1 pl.) Gives brief letter in Ganga Malayu with transliteration, translation, etc., from the western coast of the Malay peninsula

in the native state of Perak. According to K., "The Gangga Malayu has been invented by Javanese living in a Malay country and well acquainted with the Malay way of writing, so as to feel no inconvenience in expressing the vowels in the less accurate Malay manner." This alphabet contains 32 letters and its use seems quite limited.

Ketzereien über die Japaner. (Globus, Brunschwg., 1908, xciv, 322.) Résumés article of Dr H. ten Kate on the Japanese, in the *Bull. Soc. d'Anthrop. de Paris* for 1908.

Khungian (T. B.) Glimpses from ancient Armenia. (Amer. Antiq., Salem, Mass., 1908, xxx, 270-275.) Notes on the ancient history of Urarta, Manna (or Minni), Musasir, Nairi, Millit and Miltis, which made up the Armenian confederacy, and their relations with Assyria, etc.

Knocher (F. W.) Notes on the wild tribes of the Ulu Plus, Perak. (J. R. Anthropol. Inst., Lond., 1909, xxxix, 142-155, 2 pl., map.) Notes on habitat, weapons (blow-pipe), spirit-lore, houses, domesticated animals (baby gibbon suckled by woman), clothing and ornament (face-painting, nose-quill, tattooing), food, etc.; a vocabulary (pp. 148-151); anthropological descriptions and measurements of 4 female and 11 male individuals (all but 2, adults). Average heights of 4 adult females 1,407 mm. or 4 ft. 7½ in.; and of 9 adult males 1,538 mm., or just over 5 ft. These people are probably Saknis somewhat mixed with Semangs.

Kugler (F. X.) Auf den Trümmern des Panbabylonismus. (Anthropos, Mödling-Wien, 1909, iv, 477-499.) Critique of the "pan-Babylonian" theory of mythology set up by Hommel and Winckler. The astronomic and other data in Dr A. Jeremias's *Das Alter der babylonischen Astronomie* (Leipzig, 1908) are severely handled. The character of the older Babylonian astronomy, the assumed Babylonian knowledge of the precession, the Babylonian order of the planets, etc., are discussed. See Schmidt (W.).

Latham (H. L.) Ascending to the gods. (Open Court, Chicago, 1909,

xxiii, 161-170, 9 figs.) Describes ascent of Fuji, the sacred mountain of Japan.

Lauffer (B.) Kunst und Kultur Chinas im Zeitalter der Han. (Globus, Brunschwg., 1909, xcvi, 7-9, 21-24.) Discusses the art of culture of China in the epoch of the Han, on the basis of the author's own researches, etc. The Han Chinese art shows Mycenaean (not Greco-Hellenic) influences, which came by way of the great migration-road into Central Asia, the Scythians and ancient Turkic peoples having doubtless been intermediary,—the Persian Sassanide art likewise has similar Mycenaean motives. L. denies the existence of Assyrian elements in ancient Chinese art. In its general character the Han art is an art of the dead, developed in connection with ancestor cult and worship ("the grave of the Han period is a microcosm of the cultus of the time"). The great clay vases are imitations of old bronze vases. In the Han period the slow beginnings of the use of iron (gained from the Turks) mark the end of the bronze age proper (bronze implements and weapons often agree with old Siberian types). The stone art of the Han period is marked by little animal figures, etc., of nephrite, usually votive offerings to the dead, and the predecessors of the massive stone figures of the graves of the T'ang epoch. This diminutive art represents, perhaps, the best China has done; in the large she has been quite backward in form, technique, etc.

Lehmann-Haupt (C. F.) Alt-kulturelles erläutert durch Neu-Chinesisches. (Z. f. Ethnol., Berlin, 1909, xli, 635-643, 1 fig.) Treats in detail of a modern Chinese scale (for weighing precious metals, money, etc.), from the old city of Shanghai, as serving to explain ancient Chinese culture-phenomena. The scale seems made to weigh after several different systems.

Lyon (D. G.) The Harvard expedition to Samaria. (Harv. Theol. Rev., Cambridge, 1909, ii, 102-113, 12 pl.) Gives account of excavations, etc., in April-August, 1908,—stone altar, vaulted chamber and stairway, foun-

- dition of wall, platform, inscribed stele (Latin, by Pannonian soldiers), statue, etc.; Roman, Greek, Hebrew, Arabic remains.
- M. (B. F.)** Possible traces of exogamous divisions in the Nicobar Islands. (Man, Lond., 1909, ix, 71-72.) Cites passage from Nicolas Fontana (who visited these islands in 1778), with remarks by E. H. Man.
- Maclean (J. P.)** Asherah. (Amer. Antiq., Salem, Mass., 1909, xxxi, 1-6.) Treats of term *asherah*, citing the 40 places in which it occurs in the Bible, where it has been variously translated,—"all interpreters are now agreed that the term implies an idol or image of some kind." Contact with the Canaanites gave Asherah some of the attributes of Astarte.
- Maunsell (F. R.)** One thousand miles of railway built for pilgrims and not dividends. (Nat. Geogr. Mag., Wash., 1909, xx, 156-172, 1 fig., 12 pl.) Treats of Damascus to Mecca railroad. Abstracted from *Geographical Journal* (London). The illustrations (pilgrims, sheiks, inaugural sheep-sacrifice, rock-tombs, priests, etc.) are of ethnologic interest.
- Maurer (F.)** Assyrische und babylonische Kopfbedeckungen und Würdenabzeichen. (Globus, Braunschwg., 1908, xciv, 110-111, 10 figs.) Based on article by S. Langdon in *Etudes de Philologie Assyro-Babyloniennes* for 1908. Brief account of Assyrian and Babylonian head-coverings and honorary insignia. Plant motifs and horns are prominent.
- Eine babylonische Dämonen beschwörung. (Ibid., 143-145.) Cites text (in German) of and discusses a Babylonian conjuration of demons, from a series connected with the "house of ablation." In the Old Testament occur passages recalling portions of such conjurations.
- Die sumerischen Familiengesetze. (Ibid., 1909, xcvi, 373-375.) Cites and discusses in comparison with the laws of the Hebrew Bible and other Semitic documents, the 7 paragraphs relating to family law preserved in the code of Hammurabi. The harshness of some of these laws is notable.
- Mead (C. W.)** A collection from the Andaman Islands. (Amer. Mus. J., N. Y., 1909, ix, 80-91, 7 pl.) Treats briefly recently acquired ethnological collection (weapons, implements, ornaments, basketry, household utensils, prepared skulls and bones worn in mourning). The illustrations depict fish-shooting, greeting (meeting and parting), marriage ceremony, turtle-spearing, dance.
- The Andamans and the Andamanese. (So. Wkman, Hampton, Va., 1909, xxxviii, 273-278, 6 figs.) Treats of ornament, customs of greeting, etc., wedding-ceremony, hunting and fishing, social relations, food, tattooing, body-painting, pottery, contact with Europeans, etc. Same data as previous article.
- Mills (T. H.)** Our own religion in ancient Persia. (Open Court, Chicago, 1909, xxxiii, 385-404.) Article on Zoroastrianism reprinted from the *Contemporary Review* for January, 1894.
- Mochi (A.)** Crani cinesi e giapponesi. A proposito delle forme craniensi di *Homo sinicus*. Sergi. (A. p. l'Antrop., Firenze, 1908, xxxviii, 299-328, 12 figs.) Detailed descriptions with measurements of 3 Chinese (also 2 casts) and 2 Japanese skulls in the Florence Anthropological Museum, with reference to the cranial forms of Sergi's *Homo sinicus*. The 9 skulls form 4 distinct groups. M. holds that the broad low skulls are typically distinct from the high, and that high and low brachycephals are not to be confounded in E. Asia.
- Molz (M.)** Ein Besuch bei den Aonagas in Assam, Indien. (Anthropos, Wien, 1909, iv, 54-70, 5 pl.) Account of visit to the Aon or Hattigoria (some 30,000), largest tribe of the Assamese Nagas. Habitat, physical characters (av. stat., men 5 ft. 6 in., women 5 ft. 3 in.), diseases, villages and houses, burial (platform), bachelor's and assembly houses, food (almost anything), clothing and ornament, head-hunting, family life, marriage (simple, polygamy rare, divorce common; no puberty ceremonies for women; death in child-birth ill-omened), political organization (every village a republic), religion and mythology (Sibrat chief

- deity; myths of thunder and lightning, earthquake, sun, etc.)
- de Morgan (J.)** Les stations préhistoriques de l'Alagbeuz, Arménie russe. (R. de l'Éc. l'Anthrop. de Paris, 1909, ix, 189-203, 39 figs., map.) Treats of the surface "stations" of Alagheuz (Bughuti-Daghi, Hudghi-Bagher, Tcham-Meuri, Kiptchakh, etc.) in Russian Armenia, where are found together obsidian implements (scrapers, arrow-points, discs, borers, nuclei, etc.) of archæolithic and of neolithic forms. It is from the obsidian deposits of Armenia that came the obsidian found in Susa, Chaldea, Luristan, Kurdistan, etc.
- Moskowsky (M.)** Bei den letzten Veddas. (Globus, Brunschwig, 1908, xciv, 133-136, 7 figs.) Account of author's visit to the Vedda country and observation of Danigala and Hennebedda Veddas, photographing, etc. The arrow-dance was performed for him.
- Mueller (H.)** Nährväter in der chinesischen Literatur. (Z. f. Ethnol., Berlin, 1909, xli, 266-270, 2 figs.) Cites from Chinese literature 3 cases (2 from the Sheng-yi of the Emperor K'ang-hi, d. 1723, the last edition of which appeared in 1856, essentially the issue of 1728) of children represented as being suckled by men. The first two cases are attributed to the time of Li-shan (221-206 B. C.) and that of the T'ang dynasty (618-907). The act is characterized by the Chinese as praiseworthy.
- Müller (W. M.)** The Semitic god of Tabpanhes. (Open Ct., Chicago, 1909, xxiii, 1-5, 1 pl.) Treats of the limestone stele found at Tell Defenneh (Biblical Tabpanhes) in the extreme N. E. of the Delta. The worshipping scene (late Babylonian style, 6th century B. C.) depicted is thought by Prof. M. to contain "an ancient relief of Jahveh." Its existence would illustrate "the great freedom of earlier Egyptian Judaism."
- Münsterberg (O.)** Influences occidentales dans l'art de l'Extrême-Orient. (R. d. Ét. Ethnogr. et Sociol., Paris, 1909, ii, 27-36, 109-116, 21 pl.) Contains practically the same facts as the article *Über den Einfluss Westasiens auf ostasiatischen Kunst vor christlicher Zeit* (1908), noticed in the *American Anthropologist*, 1908, N. S., x, 691.
- Myres (J. L.)** Excavations at Tell Halaf, in northern Mesopotamia. (Ann. Arch. and Anthropol., Liverpool, 1909, ii, 139-144, 1 fig.) Résumés the data in M. von Oppenheim's *Der Tell Halaf, und die verschleierte Götter* (Leipzig, 1908).
- Naganuma (K.)** Philology of abell-names from ancient manuscripts. (Conchol. Mag., Kyoto, Japan, 1909, iii, Jap. Ed., 23-25, 58-62.) List of names with etymologies, etc.
- Nestle (E.)** Das Vlies des Gideon. (A. f. Religsw., Lpzg., 1909, xii, 154-156.) Discusses the test of the "fleece of Gideon" and its interpretation. The Hebrew word rendered "fleece" signifies "cut, shorn," used of wool and also of grass ("fleece," "mown grass"), and the verbal identity may have affected the association of ideas.
- Notes and scenes from Korea.** (Nat. Geogr. Mag., Wash., 1908, xix, 498-508, 2 figs., 9 pl.) The illustrations treat of carriers, shrines, fish-image in Buddhist monastery, wishing-stone in temple, symbolic stone carving, school-boys, "devil house," "gallery of names," Korean types.
- O'Brien (A. J.)** Female infanticide in the Punjab. (Folk-Lore, Lond., 1908, xix, 261-275.) Discusses causes (necessity for marriage and its impossibility owing to social conditions, etc., castes, royal relationship, imitation of higher by lower classes, etc.), recent improvements, irregularity of hypergamy and re-marriage of widows forbidden, as a by-product.
- Old mines and mills in India.** (Nat. Geogr. Mag., Wash., 1909, xx, 489-490, 2 figs.) Notes on old gold workings near Gadug, 300 miles S. E. of Bombay, said by some to date back 2,000 years, and to have been idle for at least 400 years. The ore was ground by hand in "cups" in bed rock.
- D'Ollone's weitere Mitteilungen über die Lolo und Miautse.** (Globus, Brunschwig, 1908, xciii, 319-321.) Résumés account of visit of d'Ollone to Lolo and Miautse from article in *La Géographie* (Paris) for March,

1908. D'Ollone obtained several Lolo "books," and other material of a linguistic and historical nature. The Lolo movement has been from E. to W., not from W. to E. The written characters of the Miantse are said to be related to the old Chinese characters, used since 300 B. C., for heraldic inscriptions only.
- Osgood (P. E.)** The temple of Solomon. (Open Court, Chicago, 1909, xxiii, 449-468, 526-549, 15 figs.) Two first sections of "a deductive study of Semitic culture." Based on pictured relics and "the few actual ruins-fragments."
- P.** Die Yenesei-Ostjaken. (Globus, Brunschwig, 1908, xciii, 94.) Résumés briefly report of W. J. Anutchin, head of the expedition 1905-1907 to the Turuchan region of Siberia, on the Ostjaks of the Yenesei, who are more and more taking on Russian language, customs, religion. In a number of respects (dwellings, art, etc.) their conditions are still primitive. The "chiefs" are chosen for 3 years, and important questions are decided in meetings in which women take part.
- Pantouasoff (N.)** Le temple chinois "Bei-tun-djwan" dans la passe d'Ak-Su, province d'Ilili. (R. d. Ét. Ethnogr. et Sociol., Paris, 1908, 1, 398-403, 2 pl.) Describes a Chinese temple in a cavern in the pass of Ak-Su, its chapels, idols, etc. It is a place of pilgrimage.
- Paterson (A. M.) and Broad (W. H.)** Human skulls from Asia Minor. (Ann. Arch. and Anthropol., Liverpool, 1909, 11, 91-95.) Describes briefly with chief measurements four more or less imperfect skulls (3 adult male, one child 14-15 years) found in the ancient mercury mines at Sisma, in Asia Minor, together with stone hammers of diabase and flint arrow and spear heads,—in one ancient cutting the skeletons of nearly 50 entombed miners were found. Date and race are quite uncertain.
- Patkanoff (K. P.)** Some words on the Trans-Caucasian Gypsies.—Bošà and Karači. (J. Gypsy Lore Soc., Liverpool, 1908, N. S., 1, 229-257.) First section of article treating of the Bošà and Karači Gypsies of Tiflis (Bakin, Erivan, etc., a total of some 3,000), their appellation, character and mode of life, language (pp. 245-257,—46 phrases of Bošà, numerals, grammatical notes, vocabulary of 238 words). Translated by D. F. de L. Ranking from P.'s monograph on the Gypsies, published at St Petersburg, 1887.
- Petrie (W. M. F.)** The peoples of the Persian empire. (Man, Lond., 1908, viii, 129-130, 1 pl.) Notes on the pottery-heads representative of the foreign settlement in ancient Memphis (under Persian rule); "Turanian" corresponding to similar stone heads (ca. 3000 B. C.) found in Mesopotamia; Persian; Scythian; Tibetan Mongolian; Aryan Indian, etc.,—the first remains of Indians known on the Mediterranean. The excavations about the temple of Merenptah (the Proteus of Herodotus) were begun in the spring of 1908.
- Proctor (H.)** Symbolism of the Hebrew alphabet. (Amer. Antiq., Salem, Mass., 1909, xxxi, 16-18.) Treats of meanings of letters, after the curious ideas of Rev. R. Williams, of Jamaica, who published, a century ago, a book entitled *A Systematic View of the Revealed Wisdom of the Word of God*, deducing the Gospel from the arrangement of the Hebrew alphabet.
- R.** Die Steinzeit auf Ceylon. (Globus, Brunschwig, 1908, xciv, 304.) Résumés briefly Dr P. and Dr F. Sarasin's *Die Steinzeit auf Ceylon* (1908). The Nilgala cave remains indicate prehistoric stone-age Veddas, ancestors of those of to-day, but of a more primitive type.
- Rao (H.)** The Kasubas, a forest tribe of the Nilgiris. (Anthropos, Wien, 1909, iv, 178-181.) Treats of name, septs and totems (cobra, silver, earth, etc.), marriage and wedding, divorce, cremation of dead. The Kasubas here studied live in the forests and coffee-clearings at the northern foot of the Nilgiris. They are found also in the contiguous parts of Mysore.
- Reinach (A. J.)** La lutte de Jahvé avec Jacob et avec Moïse et l'origine de la circoncision. (R. d. Ét. Ethnogr. et Sociol., Paris, 1908, 1, 338-362.) Discusses the wrestling of Jacob and the angel (Jahveh) and

the contest of Moses and Jahveh. Seized in the genital region, the god lets the human being go, blesses him and declares him his son. By this act of craft an alliance is effected. According to R., the ritual and social explanation of circumcision, as of prostitution of the religious sort, is found in its character as a sign, mark, or bond of alliance.

Röck (F.) *Ethnographische Parallelen zum malaiischen Geisterschiffchen, der "Antiprau."* (Globus, Brnschw., 1909, xcv, 239-240.) Cites parallels for the Malay symbolic use of the "spirit-canoe" (*antu prau*) from Japan (straw-boat set adrift on water), Babylonia (conjunction-text against demon Labartu mentions preparation of votive boat), India (conjunction-song in 7th book of Rig-Veda), etc.

Rose (H. A.) On caste in India. (Man, Lond., 1908, viii, 98-103.) Criticises the statements in the chapters on "Ethnology and Caste," and "Religions" by Risley and Crooke in the first volume of the new edition of the *Imperial Gazetteer of India*. According to Rose "a caste is essentially a sociological group (but not a unit), while a tribe is a natural growth from a definite ethnical seed (with, it may be, affiliated elements from other sources)." All the main castes in India are "social groups, often very highly organized, but of heterogeneous origin and not ethnically homogeneous."

S. (C. G.) The Sinhalese people and their art. (Nature, Lond., 1909, lxxxi, 39-40, 2 figs.) Résumés briefly Dr Ananda K. Coomaraswamy's *Medieval Sinhalese Art* (Lond., 1908, pp. xvi, 340, 53 pl.). Sinhalese art "is largely the result of the evolution of an early Indian art, in part sheltered by the geographical position of Ceylon from that Hinduism which overwhelmed it upon the mainland," but the Hindu influence continually made itself felt in post-Asokan and medieval times. That a chapter on the moribund art of Sinhalese embroidery could be written is due to the efforts of Mrs C. herself.

Saad (L.) Nach den Ruinen von Arsuf und dem muslimischen Wall-

fahrtsorte Sidna 'Ali bei Jaffa. (Globus, Brnschw., 1908, xciv, 89-91, 3 figs.) Brief account of visit to the ruins of Arsuf and the Mohammedan shrine of Sidna 'Ali near Joppa, in June, 1907. Arsuf is the ancient Apollonia, which name was lost before the Crusades. The ruins are now little visible. The shrine of Sidna 'Ali was built of stones from the ruins of Arsuf.

— Die neueren Ausgrabungen in Gezer. (Ibid., 1909, xcv, 171-174, 3 figs.) Brief account of the recent excavations (1907-1909) carried on at Gezer by Macalister for the Palestine Exploration Fund, as seen during a visit in November, 1908. Gezer was apparently international rather than specifically Hebrew. The cave-dweller period long antedates the Semitic and is at least as early as 3000 B. C. To the period of about 2000 B. C. belong some of the most interesting finds: Water-tunnel, altar, etc. Canaanite, Israelite, and early Christian times are represented in the graves. Evidences of subjection to Egypt for a long time occur.

— Jericho und die dortigen Grabungen der Deutschen Orientgesellschaft. (Ibid., 1909, xcvi, 9-13, 6 figs.) Account of visit in 1909 and of the excavations made by the German Oriental Society. Three Jerichos at least have existed (Canaanite, Hebrew, Herodian). Among the recent discoveries are part of the outer Canaanite city wall, remains of Canaanite and Israelite houses, etc.

Scenes from the land where everybody dresses in white. (Nat. Geogr. Mag. Wash., 1908, xix, 871-877, 6 pl.) These illustrations of Korea from photographs taken by Rev. J. Z. Moore treat of churches, nurse-girls, hay-carriers, ploughing with bulls, weaving, unwinding thread, starching thread, types of natives, etc.

Scenes in Asia Minor. (Ibid., 1909, xx, 172-193, map, 17 pl.) These illustrations, from photographs by Mr H. W. Hicks (transportation methods, school-children, sick persons, carpenter-shop, grain-sorting, spinning, Arabian children, tombstone-making, saddlery-making, making shoes and slippers, preparing cotton,

tanning, etc.) are of ethnologic interest.

Schmidt (W.) Panbabylonismus und ethnologischer Elementargedanke. (Mitt. d. Anthrop. Ges. in Wien, 1908, XXXVIII, 73-91.) Critique of the "Panbabylonism" (the mythology of the whole world is born of the system of sun, moon, star and sky-lore wrought out by the Babylonians 3000 B. C.) theory, begun by Winckler and Jeremias, and represented more or less by Frobenius in his *Im Zeitalter des Sonnengottes* (Berlin, 1904), a sun-myth advocate, and by Sieche in the "panlunarium" of his *Drachenkämpfe* (Berlin, 1907). Father S. holds that "Panbabylonismus" only makes clearer the truth of the theory of "elementary ideas," the development of similar effects from similar conditions. At p. 87 are given some Fieiad myths of the Karesau Islanders of German New Guinea.

Schotter (A.) Notes ethnographiques sur les tribus du Kouy-tcheou, Chine. II. (Anthropos, Mödling-Wien, 1909, IV, 318-353, 2 pt.) Treats of the different Miao tribes. The Yao or Yao-jen,—history and habitat, laws, writing (doubtful if anything more than shamanistic hieroglyphs and imitations of Chinese symbols), language (brief vocabulary), character ("prudent and timid" according to Chinese chronicles), dress, houses, marriage, funerals, economic condition, feudal régime (monthly taxes), religion, ancient cult of the cross and its origin (possibly exotic); the Pêmiao or "White Miao,"—name, origin, clothing, hunting, dancing, marriage, funeral, religious traditions, language (brief vocabulary), tribal divisions, sub-divisions and related tribes (at p. 349 some words of the language of the Hoa-miao); the Hong-miao,—habitat, name, customs, marriage, moral qualities, language (brief vocabulary), etc.

Schuchardt (C.) Ein Stück trojanischer Forschung. In Erinnerung an Abraham Lissauer. (Z. f. Ethnol., Berlin, 1908, XL, 943-950, map.) Discusses the question of the location of the various peoples who came to the help of the Trojans by land,—the tribes on the rivers Ketios, Myaios,

Phrygios, Lykos, etc. This limitation of the area covered is more likely to be near the truth. This area corresponds to the old kingdom of Tantalos.

Scrivenor (J. B.) Malay beliefs concerning prehistoric stone implements. (Man, Lond., 1908, VIII, 104-106.) Gives views of a Perak Malay concerning certain stone implements known as *batu lintar* or "thunder stones." They are weapons of the *jins*; lightning is caused by the *jins* throwing them; they burst into flames and explode. R. thinks that the idea of "thunderbolts" has been attached to them by Europeans.

Seligmann (C. G.) Quartz implements from Ceylon. (Ibid., VIII, 113-116, 1 pl., 6 figs.) Treats of quartz implements from various parts of Ceylon, particularly from beneath the floor of a cave in the Henbedda region of the Uva jungle, still used by Veddas, and used some 2000 years ago by the Sinhalese, who probably drove the ancestors of the modern Veddas out of many of the caves in this part of Ceylon. The evidence "indicates a much older and more intimate association between cave-dwelling Veddas and Sinhalese than is usually realized." The quartz-workers were probably Veddas.

Seligmann's Forschungen über die Veddas. (Globus, Brnshwg., 1908, xciv, 138-159.) Résumés Haddon's account in *Nature* of July 2, 1909, of the investigations of Dr C. G. Seligmann among the Veddas of Ceylon.

Sinclair (A. T.) The Oriental Gypsies. (J. Gypsy Lore Soc., Liverpool, 1908, N. S., 1, 197-211.) Treats of distribution, wanderings (world-wide), jargons (Gypsy speech not born of secret languages of "Gypsy-like nomad-castes or tribes of India"), occupations (fortune-tellers, story-tellers and disseminators of folk-lore, "go-betweeners" for lovers, messengers and spies, makers of domestic utensils, tattooers, horse and cattle dealers, public musicians, singers and dancers, showmen, etc.). Also notes on Gypsies of Turkestan and Afghanistan (Gypsy tongue almost lost), Persia (more real Gypsy words found), Kurds (the Lurians are Kurds:

the Gypsy tongue is not derived from Kurdish), Caucasus (language of Gypsies here purer than in Armenia, but still much corrupted), Syria (Armenian dialect; also a jargon), Egypt (corrupt dialect with fewer real Gypsy words), etc.

Singh (S. N.) The Americanization of Oriental women. (So. Wkcn., Hampton, Va., 1909, xxxviii, 91-100, 6 fgs.) Notes on modernizing movements in China (participation of women in Japanese boycott, journalism, etc.), Japan, Siam, Burma, India, Persia, etc.

— To-day in Burma. (Ibid., 283-293, 353-359, 5 fgs.) Treats of the city of Rangoon, use of elephants, position of woman, relation and status of sexes, social life, religion and festivals, village life, Buddhistic temples and monasteries, nat-worship, court-life, rice-cultivation, industries, etc. According to S., "in Burma a hybrid civilization is rapidly developing which has weeded out non-essentials from the Oriental and Occidental civilizations and welded together their beneficent essentials."

— The white man's repression of India. (Ibid., 1908, xxxvii, 539-547, 6 fgs.) General argument that India has been drained and impoverished. Bodies and minds have both been emasculated.

— India at the parting of the ways. (Ibid., 593-600, 7 fgs.) Treats of the "awakening of India," the foundation-laying for India's evolution, the spirit of discontent preceding the desire for progress, the educational propaganda, etc.

Stein (A. M.) Geographische und archäologische Forschungsreisen in Zentralasien. (Mitt. d. K.-k. Geogr. Ges. in Wien, 1909, LII, 289-324, 4 pl., 8 fgs.) Account of expedition of 1906-1908 in Central Asia. Notes on ruins of Khadalik (finds of MSS. in Sanskrit, Chinese and Khotanese), in desert N. W. of Niya (MSS., tablets, wood-carvings in Greco-Buddhistic style, etc.), temple-ruins of Miran, ruins of Tun-huang (MSS., silk and linen paintings, votive gifts, etc.), ruins near Chiao-tru (Buddhist cave-temples), etc.

de St. Elle (A. M.) Aventures d'un voyage en 1861 dans le Yémen.

(Anthropos, Mödling-Wien, 1909, IV, 416-441.) Account of voyage in 1861 from Aden to Samaa (sheik, people, etc.), Mareb (city of the Queen of Sheba), etc., by a merchant of Bagdad.

Tafel (A.) Meine mehrjährige Reise im chinesischen Reiche. (Korr.-Bl. d. D. Ges. f. Anthrop., Brnschw., 1908, xxxix, 118-122, 2 fgs.) Notes on the physical characters of the eastern Tibetans (no division into Tanguts and Tibetans is justifiable, the people from Kukunor to the Himalayas being one; the type is cruder than the Chinese, owing to the harsher climate perhaps; differences between the Chinese and Tibetans somatically are noted), religion, burial customs (pp. 118-121), etc. Contrasts in ideas, customs, etc., to the Chinese are noted.

Volland (—) Beiträge zur Ethnographie der Bewohner von Armenien und Kurdistan. (Arch. f. Anthrop., Brnschw., 1908, x. 2. VIII, 183-196.) Gives original texts, German translations, and music of Kurdish, Turkish and Armenian dance-songs, love-songs, war-songs, religious songs, patriotic songs, etc., with some discussion of Oriental folk-music.

Vollers (K.) Chidher. (A. f. Religsw., Lpzg., 1909, xii, 234-284.) Treats of the literature and folk-lore concerning Chidher or Chiser, a complicated figure, a product of Islamic syncretism, and one of the most remarkable phenomena in all the history of religion,—based on the account in the Koran (18, 59-81). In the Koran tale Jewish and Babylonian elements were already present. The mingling with heathen, Christian and Hellenic ideas took place in Syria and Palestine. Buddhistic influences came later. Chidher (Chadir) may be nothing more than the Arabic transference of the Sumerian Tamizu, which explains its interpretation as "green," "fresh," "fertile."

Von der Expedition des Oberstleutnants Koslow in die Mongolei. (Globus, Brnschw., 1909, xcvi, 319-321.) Based on letters of Ivanoff, a member of the Kosloff expedition to Mongolia (1907-1909). The island of Koissu in L. Kukunor was first visited by Europeans in connection

with this expedition in Sept., 1908, —it is inhabited only by a few monks. At Lusa a Tangut prince was met. The monastery of Labrang is much visited by pilgrims.

Weissenberg (S.) *Die jemenitischen Juden.* (Z. f. Ethnol., Berlin, 1909, xli, 300-327, 4 figs.) Gives results of measurements (height, finger-reach, head, face, nose, color) of 50 men and 14 women from the Jemen Jews of Jaffa and Jerusalem, also partial measurements (stature, head length and breadth) of 28 other men of the same stock. The Jemen Jews differ from the usual Jewish type of Europe (S. Russian) in having small head-circumference and narrower head (index men 74.5, women 76.7 as compared with 82.5 and 82.4 respectively for the S. Russian), stature (Jemen males 1594, S. Russian 1651 mm.), etc. Noteworthy is the complete absence of light hair and blue eyes among the Jemen Jews (10% blondes among European). W. asks if the Jemen Jews, possessing so many genuine Semitic traits, are not true descendants of the old Hebrews,—against Luschin's view that the latter were a mixture of Semites, Hittites and Amorites. In the beginning of the 6th century A. D. there was an independent Jewish-Himyaritic kingdom in Jemen. The language of the Jemen Jews is more Ashkenazic than Sephardic.

White (G. E.) *Turks praying for rain.* (Folk-Lore, Lond., 1908, xix, 308-312.) Gives account of sacrificial rain-ceremony in a Shia village. Sometimes there is a combination of horseplay with a pathetic appeal to the mercy of God.

Winternitz (M.) D. H. Müller's Beiträge zur alldarabischen Volkskunde. (Globus, Brunschwg., 1908, xciii, 78-80.) Notes on the folk-lore material in D. H. Müller's *Die Mehri- und Soqotrisprache. III. Shauri-Texte* (Wien, 1907). Among these tales are two new versions of the "Portia legend," which belong with the Pecorone form of the story. They contain many data as to folk thought, life, customs, etc. (demons; witchcraft; stone-boiling; love of animals; family and sexual life).

Wright (A. R.) South Indian folk-

lore. (Folk-Lore, Lond., 1908, xix, 474-475.) Cites items concerning pilgrims, offerings, silver charms, harvest festival with buffalo-races, sympathetic magic, bamboo tassels, etc., from Madras Government Reports.

Wylie (A.) Inscription of the Nestorian monument. (Open Ct., Chicago, 1909, xxiii, 35-44.) English translation with a few explanatory notes. The original Chinese text is given on pages 28-38. The English version is reproduced from Dr S. W. Williams's *The Middle Kingdom*. See also pp. 45-48.

Zaborowski (G.) Découverte d'une langue aryenne prétendue primitive dans le Turkestan oriental. (Bull. Soc. d'Anthrop. de Paris, 1908, v^e s., ix, 709-712.) Treats of Tokarian, an extinct Aryan tongue, more nearly related to the *kentum* languages of W. Europe than to the *satem* group by which it was surrounded. It belonged in the Tokar region of southern East Turkestan, and was discovered from *Ms.*, etc., by Drs Sieg and Siegling,—an account is given by Dr Pischel in the Proceedings of the Berlin Academy of Sciences and by Dr F. Kluge, on which Z.'s article is based. It is not the *mother*-Aryan speech, as Kluge seems inclined to hold.

INDONESIA, AUSTRALASIA, POLYNESIA

Archambault (M.) Note sur la faculté de saisir les ressemblances fortuites, montrée par les indigènes néo-calédoniens. (R. de l'Éc. d'Anthrop. de Paris, 1909, xix, 91-92.) Calls attention to the marked faculty of the natives of New Caledonia for seizing resemblances between rocks or pieces of rocks, stones, etc., and birds, reptiles, fish, insects, mollusks, crustaceans, fruits, vegetables, etc. Such stones are used as fetishes, and the shamans often retouch them to make the likeness more striking. See Hervé (G.).

— Sur les chances de durée de la race canaque. (Bull. Soc. d'Anthrop. de Paris, v^e s., ix, 1908, 492-502.) Discusses the survival-possibilities of the Kanakas of New Caledonia: Past history (first inhabitants of the archi-

pelago, had hygienic conditions, sort of Malthusianism; physical effect of race-mixture, *métissage*; action of officials and settlers, effect of European culture, effect of missions, schools, etc.). The *métis* seem generally well-built and intelligent, and marriages are fertile. Change from native to European food tends toward refinement of the race. Hygiene and the school are the two chief factors that can prolong the existence of the Kanakas. A certain amount of self-government is also necessary.

Barbour (T.) Notes on a zoological collecting trip to Dutch New Guinea. (Nat. Geogr. Mag., Wash., 1908, xix, 469-484, 3 fgs., 10 pl., map.) Contains notes on natives (use of tobacco, houses, weapons, canoes, etc.). The illustrations treat of Papuan types of Dorey, etc., children, canoes, Jobi women, Wiak men, etc.

— Further notes on Dutch New Guinea. (Ibid., 527-545, 4 fgs., 13 pl.) Treats of the houses of Djamna and the villages in Humboldt bay, the *Karriwarri* ("temples," "bachelor houses"), disposal of dead, agriculture, food, etc. The illustrations treat of Papuan types, "temples," trading, ferrying, village street, archer, etc.

Barton (F. R.) Note on stone pestles from British New Guinea. (Man, Lond., 1908, viii, 1-2, 1 pl., 1 fg.) Brief description of three stone pestles (one from the Yodda valley and two from Cape Nelson). The handle of one is carved in the form of a bird. The other two were regarded by the natives who found them as charms and they had "covered them with the customary network." The three pestles are now in the British Museum.

Bean (R. B.) Filipino ears. A classification of ear-types. (Philip. J. of Sci., Manila, 1909, iv, 27-53, 19 fgs., 10 pl.) Gives results of observation of ears of 942 adult male Filipinos; another group of 891; a third group of 578 pedestrians and 415 riders in street cars and carriages, 993 in all; also 63 prisoners at Bilibid and 547 Chinese. Four types are established as characterizing the Filipino, and four others are not uncommon. Of these "6 are European and 2 are

not (Negroid and Malay)." It would appear that aurally "the Filipinos of Manila and vicinity are more European than otherwise." This, Dr B. says, "is due to the impregnation of the primary inhabitants of the Philippines by Mongolian and early European, as well as later European (Spanish) peoples." Among the pedestrians the Negroid and Malay ears predominated. The ears of the Bilibid prisoners are not so "European" as those of other Filipinos, except in the case of the Moros. Chinese and prehistoric Europeans have influenced Filipino ear-forms. Ear-type is to some extent independent of pigmentation. The Negroid, Malay, "B. B. B.," Igorot, Alpine, "Cro-Magnon" Iberian (a and b), Northern ears are discussed as found among Filipinos. An odd, perhaps pathological, type is noted on p. 41. The Filipinos have a greater percentage than the Chinese of "B. B. B.," Igorot, Malay and Cro-Magnon ears, and less of Negroid, Alpine, Iberian b, Northern. Of Iberian a each has about an equal number.

— The Benguet Igorots. A somatologic study of the live folk of Benguet and Lepanto-Bontoc. (Ibid., Manila, 1908, iii, 413-472, 13 fgs., 8 pl.) Gives results of measurements (stature, heights of ear, chin, sternum, umbilicus, pubis, acromion, elbow, wrist, tip of middle finger, trochanter, knee; breadth of shoulder, hip, thigh, pelvis) of 104 adult (16+ years male, 10 adult female and 30 boy (5-15 years) Igorots from Lepanto-Bontoc, mountains of western Benguet, Agno River valley, Baguio, etc. The average height, for males, is 1540 mm., for females 1467; the cephalic indexes of the 104 males varied from 63 to 75 and 41 were dolichocephalic 43 mesocephalic and 18 brachycephalic, the average index being 78. According to Dr B., "the ear of the Igorot is a most typical feature and a true racial character"; and it is not like the ear of the anthropoid apes nor like that of any other primitive people,—it is rather "a European one, and characteristic of the finer types of Europeans." In general physical characters the tall

Igorot is most like, the small Igorot least like, a white man,—“an average individual Igorot resembles in form the woman of Europe, and represents a protomorph [Stratz] of the nature folk.” These types, at least, exist among the Igorots (Europe, Negrito, intermediate).

Berkunsky (H.) *Zur Anthropogeographie und Wirtschaftsgeographie der Philippinen.* (Mitt. d. K.-K. Geogr. Ges. in Wien, 1909, LII, 325-394, 3 maps.) Treats of the number and distribution of the native peoples, material culture (agriculture, fishing, mining, trade and commerce, industries, houses and villages), intellectual, social and political culture, etc. B. recognizes the Negrito, “Indonesian,” and “Mongoloid-Malay” types. He takes an optimistic view of the future of Filipinos as a race.

Best (E.) *Personification of the nature powers as observed in the myths and folk-lore of the natives of New Zealand.* (Amer. Antiq., Salem, Mass., 1909, xxx, 267-270.) Treats of the mythology and folk-lore of earth and sky (*papa* and *rangi*) and their offspring; the sun and his son; the personifications of the rainbow, water, the sun, stars, spirits, etc.

Blackman (L. G.) *The Pacific: the most explored and least known region of the globe.* (Nat. Geogr. Mag., Wash., 1908, xix, 546-563, 2 figs., 9 pl., map.) Contains a few notes on Papuans, Micronesians, Malayo-Polynesians. The illustrations treat of village scenes, types of men and women from Fiji, Caroline Is., Gilbert Is., Ellice group, Tonga, native child, Low Archipelago, chief's house, Tonga.

Bley (—) *Prähistorische Steingeräte aus Baining, Neupommern.* (Anthropos, Mödling-Wien, 1909, iv, 525, 1 fig.) Notes on prehistoric stone mortars and pestles from the Baining mountains in New Pomerania. The Baining speech is Papuan.

Bobbitt (J. F.) *The growth of Philippine children.* (Pedag. Sem., Worcester, Mass., 1909, xvi, 3-34.) Thesis for Ph.D. at Clark University. Author, formerly instructor in Philippine Normal School, gives with numerous curves and tables results of

measurements (height, finger-reach, sitting height, weight, vital capacity, strength of grip) of 1,180 boys and 438 girls between 5 and 21 years of age, in the various Manila schools (chiefly Tagalog, Pampango, Pangasinan, Ilocano, but “representing about all the Christian provinces”). According to B., “Philippine children show the three marked stages of development (steady growth of childhood, accelerated growth of puberty, diminishing post-pubertal growth) between the ages of 6 and 20 as do children of European descent; and the periods appear to be synchronous for the two races”; Philippine girls on an average appear to be about equal to Philippine boys at all ages before 14, and anatomically they are superior between 11 or 12 and 14 or 15, but functionally weaker,—at 13 most girls are post-pubescent, most boys pre-pubescent. Philippine children show parallel growth with American up to 15.

von Bülow (W.) *Beobachtungen aus Samoa zur Frage des Einflusses des Mondes auf terrestrische Verhältnisse.* (Globus, Braunschwg., 1908, xciii, 249-254, 1 fig.) Contains some items of Samoan folk-lore relating to the moon, some names of fishes, plants, etc.

— *Naturgeschichtliche Notizen und Beobachtungen aus Samoa.* (Ibid., 277-280.) Natural history notes on the *laumei* or Samoan tortoises, and ideas of the natives concerning this creature.

— *Notizen zur Ethnographie, Anthropologie und Urgeschichte der Malayo-Polynesier.* (Int. Arch. f. Ethnogr., Leiden, 1908, xviii, 152-166.) Notes on Polynesian prehistory (Polynesian is a composite stock; the Malayo-Polynesians migrated from India over the great islands of Indonesia to Viti and Samoa, whence they spread over the Pacific.—Viti was already inhabited by Melanesians,—some of the N. and W. islands were however peopled by back-migration; linguistic unity of the stock); Samoan anthropology (physical characteristics; skull form uncertain, doubtless mixture); burial customs of Samoans (mourning, *cantations*, scarification, hair-cutting,

- graves, death-feast, preparation of corpse, death-feast of individual while living, ancestor-worship, etc.). Von B. sees in former astronomical knowledge and in the lost art of stone carving "a further proof of the influence of Babylonian-Assyrian culture."
- Carua (P.)** Indonesian legend of Nahi Isa. (Open Court, Chicago, 1908, xxii, 499-502.) As "a stray Christian echo among non-Christian people, C. gives an English translation of "A legend of Nahi Isa" from Bezemer's *Volkedichtung aus Indonesien* (Hague, 1904). It is "a story of the prophet Jesus retold in the style of the Buddhist Jatakas, which has reached the island of Java not through Europeans but through natives."
- Chamberlain (A. F.)** Activities of children among primitive peoples. I. (Pedag. Sem., Worcester, Mass., 1909, xvi, 252-255.) Cites 15 items relating to the activities of children (betel-chewing, carrying, dancing, driving boars in hunt, education of youths in "temple," fishing, gardening, grinding and polishing stone implements, lime-making, navigation, plays and games, preparing twine for nets, scarring by fire, shooting, tobacco using) among certain Papuan tribes of Dutch New Guinea, as described in Dr G. A. J. van der Sande's *Nova Guinea* (1907). See *Amer. Anthropol.*, 1908, n. s., x, 298.
- and **Hartland (E. S.)** A Macassar version of Cinderella. (Folk-Lore, Lond., 1908, xix, 230-234.) Gives English translation with comparative notes of a version from the Macassars of southern Celebes, published in T. J. Bezemer's *Volkedichtung aus Indonesien* (Haag, 1904).
- Cole (F. C.)** The Tinggian. (Philipp. J. Sci., Manila, 1908, iii, 197-213, 9 pl.) Treats of habitat, physique ("almost perfect"), dress, houses (also "spirit houses"), rice-culture, government (old men ruling class of village), religion (Kadarian and his wife Agemem, powerful spirits; spirits not feared much in waking hours; spirit-lore, "magic"), birth and marriage customs (pp. 206-209), funerals (elaborate ceremonies for adults). The Tinggian are "primitive Ilokanos." The illustrations treat of native types, industries, houses, family and village scene, mediums and spirits.
- Die Selenka-Expedition nach Trinil.** (Globus, Braunschwg., 1908, xciii, 58-60.) Résumés, from Javanese and Dutch papers, the results of the Selenka expedition in 1907 to Trinil, the locality of the famous *Pithecanthropus* of Dubois. Among the numerous animal remains found are many marrow-bones showing marks of having been artificially broken; also fragments of bone and ivory possibly used as tools. According to Dr Carthaus the *Pithecanthropus* is no older than man and cannot be "the missing link."
- Edge-Partington (J.)** Maori burial chests, *atamira* or *tupa-pakau*. (Man, Lond., 1909, ix, 36-37, 5 figs.) Notes on specimens in the collection of Mr A. Turnbull of Wellington, N. Z.—no specimens are in Gt. Britain, but the Dominion Museum, Wellington, the Auckland and Melbourne Museums possess some of the rare carved wooden chests,—the bird-like carvings are peculiar.
- **Maori forgeries.** (Ibid., 31.) Brief note calling attention to the "great number of extremely well-made forged greenstone Maori 'antiquities' in circulation in New Zealand." Some years ago there was a clever German forger of *tikis* and *meris*.
- Egidi (V. M.)** Casa e villaggio, sottotribù e tribù dei Kuni, Nuova Guinea inglese. (Anthropos, Mödling-Wien, 1909, iv, 387-404, 2 pl., 3 figs.) Treats of the form and construction of the hut or *trimis* of the Kuni of British New Guinea, the different sorts of huts (7 kinds), the village and its social organization (family-lists), the foundation of a new village, list of subtribes, statistics of the Kuni. During the first years of marriage children are not permitted; the dwelling-house, or *luma* is the woman's realm.
- Elbert (J.)** Über prähistorische Funde aus den Kendengschichten Ostjavas. (Korr.-Bl. d. D. Ges. f. Anthrop., Braunschwg., 1908, xxix, 126-130.) Gives results of author's investigations in 1908 in the Kendeng strata

(*Pithecanthropus* area) of eastern Java and the finds there made: Animal bones at Tegocan, undoubtedly the remains of "meals" of primitive man, fire-places (hearth), fragments of pottery, flint arrow point or borer, etc. The geological conditions are discussed. The "stations" of Matar (in Padangan) and Pandea are also described, likewise the finds of pottery, bronze objects, etc., at Kalangan, Ngrepet, etc. The "station" of Tegocan E. regards as middle-diluvial.

— *Prähistorische Funde aus den Kendengschichten Ostjawas.* (Ibid., 1909, xi, 33-34.) Gives some additional data. Author abandons theory of hearth at Tegocan, but maintains evidence of pottery, etc.

Erldand (A.) *Die Stellung der Frauen in den Häuptlingsfamilien der Marshallinseln.* (Anthropos, Wien, 1909, iv, 106-112.) Treats of the position of women in the chiefs' families of the Marshall Is. (principal and subordinate wives, etc.), with notes on ceremonies connected with childbirth, menstruation, puberty, etc. The genealogical tree of the chiefs' families of the Ralik group is given.

Finsch (O.) *Ein Plankenboot von Buka (Deutsche Salomoninseln) im städtischen Museum in Braunschweig.* (Globus, Braunschwg., 1909, xciv, 375-380, 110 figs.) Describes a mon or plank-boat (with measurements, etc.) from Buka in the Solomon Is., its construction, decoration, etc., the implements used in making it.

Fischer (H. W.) *Iets over de wapens uit de Mentawai-Verzameling.* (Int. Arch. f. Ethnogr., Leiden, 1908, xviii, 132-138, 8 figs.) Treats of daggers, shields, arrows, ornamentation of weapons, etc., of the Mentawai islanders, from specimens in the Rijks Ethnographisch Museum.

— *Een "rammelaar" als hulpmiddel bij de vischvangst.* (Ibid., 178.) Note on the use of a peculiar means of attracting fish to be caught, in various regions of Indonesia, New Guinea, etc.

Fraser (J. G.) *The Australian marriage law.* (Man, Lond., 1908, viii, 21-22.) Points out that as early as 1882 Dr A. W. Howitt had suggested that the primary division into two

classes "was intended to prevent brother and sister marriage in the commune," while the secondary divisions into subclasses were intended "to prevent the possibility of inter-marriage between parents (own and tribal) and children." This according to F. is "the truth about the origin of exogamy in Australia."

Geisler (B.) *Die Kampfschilde der Jabim auf Deutsch Neu-Guinea.* (Globus, Braunschwg., 1908, xciv, 126-128, 3 figs.) Describes the making and ornamentation of the war-shields of wood, of the Jabim, a Papuan people of German New Guinea. The ornamentation is done later at leisure. The old shields were carved and ornamented with stone implements alone,—iron is now in use, making the process of manufacture briefer.

van Gennep (A.) *Questions australiennes. II.* (Man, Lond., 1908, viii, 37-41.) M. van G. points out how his theories are confirmed in the recent monograph of Strehlow and Leonhardi, *Die Aranda- und Luritja-Stämme in Zentral-Australien* (Frankfort, 1907).

Goodman (M.) *A reconnaissance from Davao, Mindanao, over the divide of the Sahug river to Butuan, etc. Narrative of the expedition.* (Philip. J. Sci., Manila, 1908, iii, 501-511, 2 pl.) Contains a few notes on the Manobos, Mandayas, Manguanas, Ibabao, Agunitanos, etc.

Grabowsky (F.) *Der Reisbau bei den Dayaken Südost-Borneos.* (Globus, Braunschwg., 1908, xciii, 101-105, 1 fig.) Describes rice-culture among the Dayaks of S. E. Borneo: Preparation of ground, interrogations of air-spirits and water-god, dreams and other omens, obtaining rice-seed, bad-omens that cause abandonment of rice-field, planting of field, offerings to spirits, observation-hut and scare-crows, gathering of first "ears," rice-harvest, varieties of rice (Dayaks know more than 40), storing rice and magic ceremonies connected therewith, hulling and cooking, etc.

Graebner (F.) *Die melanesische Bogenkultur und ihre Verwandten.* (Anthropos, Mödling-Wien, 1909, iv, 726-780, 2 maps.) First part of a

- detailed consideration of the Melanesian bow-culture and its connections with other cultures of the South Pacific, etc. The chronological order of these cultures is: Old Australian (few remains in Polynesia and Melanesia), totem-culture, matriarchal two-class system culture, Melanesian bow-culture, Polynesian culture.
- Hagen (K.)** Sammlung von Zaubegeräten und Amuletten der Batak. (Korr.-Bl. d. D. Ges. f. Anthrop., Brunschwig, 1908, XXXIX, 134.) To appear later in the *Archiv für Anthropologie*.
- Hasen (G. A. J.)** Eine Metalltrommel aus Java. (Int. Arch. f. Ethnogr., Leiden, 1909, XIX, 82-85, 3 figs., 4 pl.) Describes a metal drum found in 1905, while working a huma or dry rice-field in the region of the kampung Babakan, district of Tjiputri, Tjandur, Java, now in the Museum of the Batavia Society of Arts and Sciences.
- Howitt (A. W.)** A message to anthropologists. (R. d. Et. Ethnogr. et Sociol., Paris, 1908, I, 481-482.) Calls attention to the need of "using the utmost caution in accepting as primitive rules the present marriage customs of the majority of Australian tribes,"—in many cases no competent natives now survive. Some statements of R. H. Mathews are also called into question.
- von Hügel (A.)** Decorated maces from the Solomon islands. (Man, Lond., 1908, VIII, 33-34, 1 pl., 2 figs.) Describes and figures two maces with stone heads (human) and with the shafts encrusted with pearl shell, now in the Cambridge University Museum. One other is in the British Museum, two are in the Godeffroy Museum, Dresden, and two in the University Museum, Sydney, Australia.
- v. Huth (G.) und Girachner (M.)** Sagen, Gesänge und Märchen aus Ponapé. (Globus, Brunschwig, 1909, XCV, 235-239.) Gives German text, with some explanatory notes, of 10 tales and legends (the conch, and fear of thunder; how Lioméjilan was bewitched by a female demon or *liéi*; how the wave-goddess, Limokonkon sought to seize a woman; the swimming-race between the *idá*-fish and the crab; the spirit-canoe; the discovery of Ponapé; the woman who was brought by doves and taken away again; infidelity punished; song of two boys whom a ghost meets), etc.
- Joyce (T. A.)** Note on a native chart from the Marshall islands in the British Museum. (Man, Lond., 1908, VIII, 146-149, 3 figs.) Describes chart (framework of sticks, to which are fastened small shells, which represent definite islands), known as *rebbelib*, showing both of the two chains of islands (Ralik and Ratak) of which the Marshall group is composed,—30 islands have been identified as marked by the shells.
- Juyaboll (H. H.)** Indonesien. (A. f. Religsw., Lpzg., 1909, XII, 126-144.) Critical reviews and résumés of literature of 1906-1907 relating to Indonesian religions, mythologies, etc. The most important book of the year is A. C. Kruyt's *Het Animisme in den Indischen Archipel* (the author of which spent 12 years as a missionary in Central Celebes, besides having an acquaintance with South Borneo, part of Sumatra, the Nias Is., etc. Kruyt differs in several points from Wilken, e. g., origin of fasting, widow-sacrifice.) Schadee's monograph on the religion of the Dayaks of Landak and Tajan, in the *Bijdr. v. h. Kon. Inst. v. T. L. en Volkenk.* (1906-1907) is important; also Nyuak's study of the religious rites and customs of the Sarawak Dayaks, in *Anthropos* (1906).
- Kleiweg de Zwaan (J. P.)** Die anthropologischen Ergebnisse der Sumatra-Reise des Herrn A. Maasa. (Z. f. Ethnol., Berlin, 1909, XII, 167-180, 14 figs.) After briefly discussing the numeral theories as to the racial origin of the Malays, etc. (from Marsden to Fritsch and Hagen), Dr K. gives a general description of the physical characters of the natives of Central Sumatra, based on the measurements and observations of 570 men and 57 plaster casts of heads,—no women could be measured. Color of skin (mostly between 18 and 25 of Luschka's scale), color of eyes (no absolutely black eyes; iris between 2 and 3 of Martin's table in

439 cases), color of hair (brown shade, never really the "raven black" of so many investigators), hairiness (slight on body except in genital region, probably racial character), fine and gross types of face, etc. (the former in higher-class Malays, the Pengulu, officials in the Dutch service, etc.) "Mongolian fold" (in about $\frac{1}{4}$ of the cases), prognathism (generally present; absent from 77 men), feet (large in proportion to hands; space between large and second toes great; inward inclination of three outer toes), stature (average of men over 20 years 1755 mm., finger-reach 1.835 mm., trunk 45.1), cephalic index (average 82), etc. In general the natives of the coast highland show a taller (also longer-faced) and slenderer type than those of the interior, the result, perhaps, of better nutrition, higher culture, etc.

Kraemer (A.) Ornamentik und Mythologie von Pelau. (Korr.-Bl. d. D. Ges. f. Anthrop., Brunschwg., 1908, xxix, 116-118.) Based on visit of several months to the Pelau Is. in 1907. Treats of ornamental art ("picture-stories" or "grammatologies,"—ornamentation of *bai* or men's house; fish-bladder motif, *tridacna* shell-fish ornament, figures of man, the *delord* bird), the peculiar money of Pelau, *heterism* of the *bai*, creation-legend, etc. K. and Mrs K. studied more than 100 of the 150 *bai* in Pelau, more or less in detail.

Vuvulu und Aua, Maty- und Durour-Insel. (Globus, Brunschwg., 1908, xciii, 254-257, 1 fg.) Résumé and critique of Dr P. Hambruch's *Wuvulu und Aua* (Hamburg, 1908). At p. 255 are given a number of native plant-names (Vuvulu, Luf, Samoa) and some notes on the language; p. 256, names of boat and parts. The people of Vuvulu and Aua show two types, a fine (Malayo-Micronesian) and a grosser (Melanesian), the Micronesian predominating.

Lang (A.) Linked totems. (Man, Lond., 1909, ix, 3-4.) Treats of S. E. British New Guinea totemism as reported by Seligmann,—here "society is organized on a hitherto unheard of basis." This is compared

with Fiji. In this part of New Guinea, "every individual of a particular clan has the same linked totems," 4 in all, if the clan has 4. Female descent prevails and the clan is exogamous. See Seligmann (C. G.).

Mr Gason and Dieri totemism. (Ibid., 52-53.) Points out an error of Mr S. Gason regarding the taking of totems by sons from fathers and by daughters from mothers. The statement was adopted by Frazer. **Lawrence (A. E.)** A Milano tale, Sarawak. (Folk-Lore, Lond., 1909, xx, 83-85.) English text only.

Leenhardt (M.) Note sur quelques pierres-figures rapportées de Nouvelle-Calédonie. (R. de l'Éc. d'Anthrop. de Paris, 1909, xix, 292-295, 7 fgs.) Treats of "yam stones," "taro stones," "rain-stones," "spear-stones," phallic stones, and other natural stones in which the Kanakas of New Caledonia see the forms of various things and attach to them significance as amulets, talismans, etc. See Archambault (M.).

v. Leonhardt (M.) Ueber einige Hundenfiguren des Dieristammes in Zentralaustralien. (Globus, Brunschwg., 1908, xciv, 378-380, 1 fg.) Treats of painted (white, red and black) figures of dogs made of tree-resin, now in the collection from the Dieri tribe of Central Australia in the Adelaide Museum. These are, according to v. L. "the only original evidences of plastic activity of the aborigines of C. Australia"; they are probably the work of an individual "touched by higher culture."

Linke (F.) Samoanische Bezeichnung für Wind und Wetter. (Ibid., 229-232, map.) Treats of wind and storm names among the Samoans: *to'elao* (trade-wind) and its opposite *lai* (generally WNW.); *tuololo* (a stormy S. wind), *paolo* (gentle W. wind in pleasant weather), *afa* (hurricane from any direction), *matilua* (a stormy wind); *fa'otiu*, *lafa'otia* (N. winds). General terms for wind: *Matangi*, *sawili* (cool night breeze), *laufofa* (gentle winds), *pi'ipapa*, *lauwalua*, etc. L. makes no reference to Churchill's "Weather Words of Polynesia" in *Mem. Amer. Anthropol. Assoc.* II, 1-98.

- Lowie (R. H.)** The Fijian collection (Amer. Mus. J., N. Y., 1909, ix, 116-122, 4 pl., 8 figs.) Brief account of recently acquired ethnological collection of more than 2000 specimens, largely from the Fiji Is. (clubs and spears, pottery and household utensils, bark cloth, kava-bowls, pattern-board and stencils for cloth-marking, tattooing implements, adzes, fly switches, oil and food dishes, neck-rests, combs, decorated shell breast-plates, etc.). Of special interest is a model of a burr or "temple."
- Maass (A.)** 57 Gypsmasken aus Mittel-Sumatra. (Z. f. Ethnol., Berlin, 1908, xi, 620-623.) Notes on plaster-casts of the heads of Minangkabau Malays made by Dr Kleiweg de Zwaan. The broad face and flat stub nose mark the primitive Malay.
- Durch Zentral-Sumatra. (Ibid., 1909, xlii, 143-166, 3 pl., 29 figs., map.) Account of journey across Central Sumatra from Padang to Siak in 1907 with notes on native tribes, etc. Houses (4 types in Padang highlands), bird-cages (typical of Malay), Malay villages (Salajo, etc.), Malay grave at Salajo, balai or town-house, new mosque, old wood-carvings at Alahan, Pandjang, Malay family and matriarchate, fine old Chinese porcelain (found even in forest-villages), cock-fighting, remains of temple with Mahākāla statue at Sungai Lansat (Hindu influence), dress and ornament of people of Kwantan district (turban, etc.), art (yarn-winder, powder-horn, carved paddles, canes, rice-knives given as presents by youths to maidens, old brass-work (sirih set), pottery of Tjerenti, Hari (also wooden stampers), marriage-customs, position of women and children, children's masks of palm-leaves (cat, tiger, monkey, etc.), *Antikid* or little calendars. Altogether 573 anthropological measurements were made, and 57 casts, 363 color-observations, 1000 ethnographic specimens, beside 100 old Chinese plates of the 17-18th century obtained; also 350 photographs and 60 phonographic records. See Kleiweg de Zwaan (J. P.).
- de Marsan (J.)** Sur quelques Sociétés Secrètes aux îles Fiji. (Anthropos, Wien, 1908, iii, 718-728.) Treats of *Kalu-vatu* (whose members are proof against spears, bullets, etc., insensible as stone, hence the name "stone-gods"), *Kai buca* (coco-wood), *Kai nakauvadra* (the most celebrated of all, named after the mountain of Na Kau vadra, where dwelt the father of the Fijians), *Luvu ni wai* (sons of the water), secret societies of the Fijians, their constitution, rites and ceremonies, songs, etc. The object of the first, now represented by the *Kai Kubulaw*, was to make warriors invulnerable; of the second to demonstrate the power of the *génie* or demon; of the third (of recent origin) to put the Fijians into *rapproch* with the spirits of their ancestors on Nakauvadra; of the fourth, whose ceremonies are held at the water's edge, to learn new *meke* or dances.
- Le culte des Morts aux Fiji, Grande île-intérieure. (Ibid., 87-98.) Ideas concerning death and treatment of corpse; burial and grave-cairn; announcement of death by messenger; appeal to spirit of dead to find out cause of decease; signs of mourning; ceremonies in honor of dead (for adults, children); ceremonies to appease spirit of dead; feast of the dead; the abode of spirits (*vilavila* or *cibaciba*); burial-places; feasts for paying old debts; guard of dead man's house.
- Mathews (R. H.)** The Dhudhuroa language of Victoria. (Amer. Anthrop., Lancaster, Pa., 1909, n. s., xi, 278-284.)
- Matrilineale Deszendenz beim Wombaia-Stamme, Zentralaustralien. (Mitt. d. Anthrop. Ges. in Wien, 1908, xxxviii, 321-323.) Treats of the author's views as to the descent-organization of the Wombaia tribe of Central Australia and those of Spencer and Gillen. M. Considers descent in the maternal line proved.
- Zur australischen Deszendenzlehre. (Ibid., 182-187.) Treats of descent among the Australian aborigines, with criticisms of Spencer and Gillen, and other writers, who, according to M., have erroneously attributed to certain tribes a patrilineal descent.

- Initiationceremonie des Bird-hawal-Stammen. (Ibid., 1909, xxxviii, 17-24.) Gives details of the *dyerrayol*, or initiation ceremony for boys among the Birdhawal tribe in northeastern Victoria, Australia, based on personal observation, etc.
- The sociology of the Arranda and Chingalee tribes, Northern Territory, Australia. (Folk-Lore, Lond., 1908, xix, 99-103.) Cites evidence for matrilineal descent of children, and arrangement in cycles ("phratries") of the sections (or "classes") of these two tribes. According to M., "it is, in fact, a question whether there is any well-defined law of exogamy in the social structure of the Australian aborigines."
- Folk-tales of the aborigines of New South Wales. (Ibid., 224-227, 303-308.) English texts only of 9 tales (why fishes inhabit the water, why the owl has large eyes, how the nankeen-crane makes the reeds grow, origin of the bar in the Murrumbidgee river at Balranald, a woman's waist-belt a cure for headache, how the Kamilaroi acquired fire, the emu and the crow, how Boolaboolka lake was formed, the native cat and the fishermen) from the Kamilaroi, Wirraldyuri, Yithayitha, Wathl-wathi, Burrabinga, Mailpurlgu tribes.
- Descendance par la lignée maternelle dans la tribu des Binbingha du territoire septentrional. (Bull. Soc. d'Anthrop. de Paris, 1908, v^e s., ix, 786-789.) Notes on matrilineal descent among the Binbingha of northern Australia. Among these people no phratry or "half" names and no indications of male descent exist.
- Aboriginal navigation in Australia. (Amer. Antiq., Salem, Mass., 1907, xxxi, 23-27.) Notes on use of rafts and canoes, one or other or both used in every part of Australia and Tasmania except a portion of the coast of W. Australia from Eucla to Albany and thence northward about as far as Gladstone (canoes were never seen in Tasmania, rafts only); making of rafts, bark-canoes, etc. According to M., the "dug-out" and "catamarans" of Cape York peninsula, Port Darwin, etc., are "introductions by the Malays and Papuans."
- Mayer (O.)** Ein Sonnenfest bei den Eingeborenen von Vuatom, Neu-Pommern, Südsee. (Anthropos, Wien, 1908, iii, 700-701.) Brief account of a sun-festival, with offerings of harvest-fruits, etc., celebrated in the beginning of the year, at the time of the wild sugar-cane by the natives of Vuatom, New Pomerania.
- Meier (J.)** Mythen und Sagen der Admiralitätsinsulaner. (Ibid., 651-671, 1909, iv, 352-374.) Pt. I. native texts and interlinear translations of 9 legends and myths (the pongopong-fruits that became women; why the leaves of the *adrilis*-tree, *Terminalia litoralis*, no longer change into women; why the people of Yap are light and the Moanus dark; why in the Yap country there is so much and in that of the Moanus so little food; why the sea separates the Yap and Moanus country; a Moanus woman who married a Yap man; a tale of brother and sister; the voyage of Paluar to Yap; the revenge of two Yap women on a Moanus man) from the Admiralty Is. The second part gives texts and translations of 18 tales of devils and spirits and 3 other stories (the man who wanted to drink up the sea, a family drama, the man who ate all the children).
- A Kaja oder der Schlangenbergglaube bei den Eingeborenen des Blanchebucht, Neupommern. (Ibid., 1908, iii, 1005-1029.) Treats in detail of the Kaja or serpent-cult of the natives of Blanche bay, New Pomerania. The Kaja, a python snake, the most feared of all spirits (nature, forms, companions and followers, dwelling-place chiefly in caves, etc., activity as creator, Kaja-taboos, Kaja-diseases, ancestor-worship of Kajas, defence against the Kajas, disease-conjurations (native texts with translations), etc.).
- Meyer (A. B.)** Die Papuasprache in Niederländisch-Neuguinea. (Globus, Brnschw., 1908, xciv, 189-197.) Gives vocabulary of 46 words in 5 languages (Arfak, Hattam, Kapaur, S. coast between 138° and 140° E. long., Sentani), from various author-

ties (the Arfak vocabulary being one published by M. in 1874) and discusses the question of significance of the presence of Papuan and Melanesian languages in British New Guinea. According to M. the Papuas are a race originating from a mixture of "Negritos" and "Malays."

Mollison (T.) *Beitrag zur Kraniologie und Osteologie der Maori.* (Z. f. Morphol. u. Anthropol., Lpzg., 1908, III, 529-595, 5 figs., 7 pl.) Treats in detail of 15 Maori skulls in the Zürich Anthropological Institute, in comparison with other published material of Maoris, Australians, Papuans, Polynesians,—also 13 lower jaws, two imperfect skeletons and some long bones. According to Dr M., "Polynesians, Melanesians and Australians form a mixture-series, of which relatively pure terminal members appear in Australia on the one hand and in the N. E. Polynesian Is. on the other. Between these lie mixed forms of different composition. In the natives of New Zealand the Polynesian element is markedly predominant. But the Australian (Melanesian element) is also clearly present."

Monckton's *Durchkreuzung von Britisch-Neuguinea.* (Globus, Brnschw., 1908, xciv, 355.) Brief résumé of C. A. W. Monckton's account, in the *Geographical Journal* for November, 1908, of his journey across British New Guinea, with notes on the aborigines.

Moszkowski (M.) *Die Inlandstämme Ostsumatras.* (Ibid., 293-297, 309-316, 34 figs.) Treats of the Sakais (a Vedda-like primitive people), Semangs (Orang Akit, of Nigritic stock), etc., of the interior of E. Sumatra, their activities, industries, religion, shamanism, etc. Weapons (art of forging unknown, iron implements obtained by exchange from Chinese or Malays; wooden blow-pipe chief weapon of Akit), fishing and hunting and the implements and devices used therein, fire-making, gourds, mats, basketry, agriculture (Akits very primitive), song and music, belief in evil spirits (the chief *ontu* is a hunter with dogs), conjuration of *ontus* among the Akits,

offerings to spirits (among them the model of a boat with 2 masts and three pairs of oars,—the names of the various parts are given on p. 311), shaman's dance, and song (with text), economic condition (Akits degenerating, Sakais better off and learning from Malays), agricultural operations, sugar-making, oil-manufacture, cattle-rearing (not extensive among Sakais and Malays, not known to Akits), character (Sakais very good natured and peaceful, but learning now lying, etc., from Chinese and Malays).

— *Die Urstämme Ostsumatras.* (Korr.-Bl. d. D. Ges. f. Anthropol., Brnschw., 1908, xxxix, 122-124, 1 pl.) Notes on the physical characters of the Sakais, their activities, culture, etc. In contrast with the patriarchal system of the Veddas, the Sakais show the beginnings of the mother-right status.

— *Die Völkerschaften von Ost- und Zentralsumatra.* (Z. f. Ethnol., Berlin, 1908, xi, 634-655, 12 figs.) Gives results of visit in 1907. The natives of eastern and central Sumatra may be thus grouped: 1. the dolichocephalic Sakais and Orang-Talang,—identical with the Senois of Malacca; 2. the brachycephalic Aket or Akik, Orang Akik, partially negritic, possibly a mixture of Semangs and Jakuns. 3. Malays (smooth-haired brachycephalic; seldom racially pure, the people of the coast, etc., being much mixed); 4. Mandelings (dolichocephalic). Physical characters, family and social life (M. considers that the Sakais and Akits "show still pretty clearly the first beginnings of matriarchy, the natural initiation of all social living together"), food (taploca chiefly, with transition to maize and rice), beginnings of patriarchal feudal-state (difficulties caused by Islam), customs of greeting, birth, circumcision, burial (blood-letting, grave-offer, etc.), implements, instruments, etc. (wood now largely displaced by iron), agriculture (rice, sugar-cane, etc.), hunt, art (beginnings of music, wood-carving, etc., exclusively in the hands of men), weaving of mats (work of women), pottery (not known to

Sakais, but both men and women of Tapung and Rokan make it), houses of several types, transportation (boat, horse of recent introduction, wagon unknown), psychical character (very fond of talking), religion ("fear of evil spirits, the very lowest form," *anta* responsible for everything among Sakais; unlucky numbers), etc. At pp. 654-655 are given the German translations of 3 songs.

Entstehungsgeschichte des malayischen Reismessers, *pénwai*. (Ibid., 961-963, 1 fig.) Discusses the origin of the *pénwai* or Malay knife for rice-cutting. Among the objects put into the bag with the "rice-child," or *śmēngat padi* (soul of the rice) at the ceremony of the first rice-cutting is a mussel-shell,—this, considering the form of the *pénwai*, suggests the development of the latter from the older shell-knife. The hymn sung against the evil spirit of the fields contains the expression *kerang tumbago*, "mussel-shells (i. e., knives) of copper."

Ost- und zentralsumatranische Gebräuche bei der Ackerbestellung und der Ernte. (Ibid., 1909, xii, 469-493.) Treats, with native texts and interlinear German versions of numerous prayers, songs and speeches, of the rites and ceremonies, etc., in connection with the cultivation of rice among the aborigines of E. and central Sumatra.—tribes on the Mandau and the Tapungs; the Mandelings, a Battak tribe of central Sumatra, etc. Interesting is the "hymn of thanksgiving," on page 489, identical with similar songs, etc., recorded by Skeat from Malacca. These ceremonies are pre-Islamic and very old and have had probably a common origin in the interior of the Malay peninsula. When the Sumatrans migrated to the island they brought with them the rice-culture and the rice-cult. Certain evidence shows that the dry rice-culture is the older. Among the Mandelings almost all of the deities invoked are of Hindu origin. The people of the Mandau and the Tapungs have learned these customs comparatively late (but in pre-Islamic times) from their neighbors. Islamic influences are present in

names and phrases of religions import in various parts of primitive Sumatra. At pp. 492-493 are given the native text and translation of an agreement between two Malay notables of Tapung kiri.

Neuhauss (R.) Bericht aus Neu-Guinea. (Ibid., 751-753.) Notes on expedition of December, 1908, to May, 1909, among the Kai people of Finschhafen and those of the Markham river. Traces of a prehistoric population were found in the Kai country.

Nieuwenhuis (A. W.) Der Gebrauch von Pfeil und Bogen auf den grossen Sunda-Inseln. (Int. Arch. f. Ethnogr., Leiden, 1909, xix, 55-81, 2 figs.) Treats of the use of the bow and arrow among the peoples of Java (in general use in the Hindu period as indicated on monuments, etc.; also previously among the Javanese), Celebes (known only by tradition, linguistic terms, etc., previously in use as weapon by the Toradja), Sumatra (earlier in use on the coast, as now on the Poggi and Mentawai Is.), Nias (child's toy), Borneo (earlier in use among many tribes), Palawan (as weapon among Bataks), Malacca (suppressed during the last centuries by European fire-arms), Farther India (used by many tribes), Madagascar (used by Malay tribes), Philippines (Malays possessed bow and arrow before they met the Negritos), Formosa (used by Malay tribes). Dr N. concludes that "the bow-and-arrow belongs to the culture-stock of the Malayan peoples and has not been borrowed from their neighbors." Appended are notes by Groseman on prize-shooting with bow-and-arrow in Jogjakarta, by Brata di Widjaja in Soemerdang, and by Schroeder in Nias.

Noetting (F.) Studien über die Technik der tasmanischen Tronatta. (Arch. f. Anthrop., Bernschwg., 1908, N. F., VIII, 197-207, 7 figs.) Studies of the technique of the *tronatta* or stone implements, made by knocking off flakes therefrom,—the author possesses the best collection of *tronatta* (from the Tasmanian word *trona*, name of the stone employed for the purpose) existing. After careful study of the European "coliths,"

N. concludes, that, unless one is prepared to prove that the Tasmanian *tronatto* have not arisen through the hand of man, he must admit the human origin of the European "collihs."

Kannte die tasmanische Sprache spezielle Worte zur Bezeichnung der verschiedenen Gebrauchsart der archäolithischen Werkzeuge? (Z. f. Ethnol., Berlin, 1909, xli, 199-208.) Discusses the words for *knife*, *axe*, *saw* in the language of the Tasmanian aborigines (vocabularies of Calder, Scott, Milligan, etc.). The Tasmanians had probably but a single word for stone implements. This has its application to European archeoliths, and collihic-archeolith man there also may have used but one word for his implements. Indeed the Tasmanian *tronatto* covers a greater variety of used material than in Europe.

Nuoffer (O.) Ahnenfiguren von der Geelvinkbai, Höllandisch-Neuguinea. (Abh. u. Ber. d. Kgl. Zool. u. Anthropol.-Ethnogr. Mus. zu Dresden, Lpzg., 1908, xli, Nr. 2, 1-30, 32 figs., 1 pl.) Treats of 15 *korware* or ancestral figures (5 are skull-*korware*) of the Papua of Geelvink Bay (Dutch New Guinea) now in the Dresden Ethnographic Museum. Of the usual *korware* 6 are of the Wandemén, 2 of the Doré, and 2 of the Ansus type. The balustrade and ornamentation of the *korware* are also discussed (pp. 17-26). The Doré type, with legs apart and the snake-balustrade, seems to be native to Geelvink Bay. The Wandemén type has been influenced by the Doré. The motif of these figures seems to have come to Wandemén Bay (by way of McCluer Gulf) from Indonesia. The style has been influenced by the native skull-cult and its traditions, which have modified the Indonesian figures.

Planert (W.) Australische Forschungen. II. Dieri-Grammatik. (Z. f. Ethnol., Berlin, 1908, xl, 686-697.) Outlines of grammar, with texts (pp. 693-697) and interlinear translations,—3 legends.

Pöck (R.) Besteigung des Mount Albert Edward und Besuch des Chirima-Stammes durch C. A. W.

Monckton. (Stzgh. d. Anthropol. Ges. in Wien, 1907-1908, 9-11.) Contains notes on the Chirima tribe of British New Guinea from Government reports for 1906,—dwellings, clothing, fire-making, tree-felling, utensils, weapons, etc.

Ethnographische Mitteilungen über die Kworafi. (Mitt. d. Anthropol. Ges. in Wien, 1909, xxxviii, 25-33, 4 figs.) Discusses totemism among the Kworafi of the north-eastern coast of British New Guinea (villages of Jagirua, Gabarussa, Fozari, Deriowa, Foduma, Barabara, etc.), with lists of relationship-names, totem animals, etc. Every Kworafi has a totem animal (and probably but one); women may not eat the husband's totem-animal. Boys and girls alike receive the totem-animal of their father, but may not eat that of their mother; marriage of those having the same totem-animal is forbidden; in some villages a single totem-animal predominates; the members of a totem-group live in a connected group of houses under one roof. At pp. 32-33 the pile-dwellings of the Kworafi are described.

Wanderungen im nördlichen Teile von Süd-Neumecklenburg. (Globus, Braunschwg., 1908, xciii, 7-12, 5 figs.) Account of visit in March-May, 1905, in northern New Mecklenburg, notes on the natives, etc. The Lólui of Ulapatur, dances of the natives of Leméssi, language (brief vocabularies of Kókola and Laur), totems of Kókola and Laur, houses, boats, etc.

Reisen an der Nordküste von Kaiser Wilhelmaland. (Ibid., 139-143, 149-155, 169-173, 15 figs., map.) Gives account of travels in 1904, etc., on the north coast of Kaiser Wilhelmaland, German New Guinea, ethnological notes on the various peoples, etc. The Monúmbo of Potsdamhafen region (measurements of 30 individuals taken; mission school has 80 children; blood-revenge), their weapons (spear and throwing-stick; bow and arrow in use only ceremonially,—made of palm-leaf and leaf-stem), trade with other tribes, etc. Nubia (formerly head-hunters terrorizing the region) west of the Monúmbo-Manám of the vol-

cano-island. Alepápun (an inland tribe long at enmity with the Monúmbó), villages of Zepá, Anjám in particular. Iku (inland tribe of Iku mountains). Watám at the mouth of the Kaiserin Augusta River (warlike, head-hunting people; sleeping-bags for protection against mosquitos; carved figures and masks). The Watám are taller and incline more to dolichocephaly than the Monúmbó (indexes of 14 Monúmbó and 10 Watám given, p. 172). At pp. 172-173 are given a grammatical sketch, vocabulary and sentences of the Watám language; at p. 150 vocabulary and a few proper names of men and women in Manám; at p. 153 a few words of Alepápun. The Watám and Monúmbó are culturally and ethnologically much alike; but physically and linguistically far apart, the Monúmbó speaking a Melanesian, the Watám a Papuan tongue.

Ray (S. H.) The Ngolok-Wanggar language, Daly river, North Australia. (*J. R. Anthropol. Inst., Lond., 1909, xxxix, 137-141.*) Based on information from Father Conrath of Daly river. Grammatical notes, text of *Pater Noster*, and vocabulary (with corresponding terms from Rev. Mathew's *Daktyerat* (in his *Eagle-hawk and Crow*, Lond., 1899), which seems to be the same language.

Reid (R. W.) Decorated masks from the Solomon Islands. (*Man, Lond., 1908, viii, 59.*) Calls attention to fine specimen in the Anthropological Museum of Aberdeen University, figured and described by Giglioli in *Arch. p. l'Antrop.* for 1898.

Rivers (W. H. R.) Totemism in Polynesia and Melanesia. (*J. R. Anthropol. Inst., Lond., 1909, xxxix, 136-180.*) R. considers that in the case of the mountain tribes of the interior of Viti Levu described by Father de Marzan (*Anthropos*, 1907), we have to do with "true totemism," but there may be different species of totemism in different parts of Fiji; also in Samoa. But in the little island of Tikopia (120 miles S. E. of the Santa Cruz group), inhabited by almost physically pure Polynesians, we have "the clearest evidence for the existence of totemism in Polynesia." Here the evolu-

tion has been, however, from hero and totem together to god. In Melanesia the presence of totemism cannot be said to have been definitely demonstrated, but R. thinks that in the Reef Islands, Santa Cruz and Vanikola, "genuine totemism" exists. In some regions of the Solomon Is. there is "no totemism or only its faint relics," while in others (e. g., Yasabel) it exists. In Melanesia south of the Santa Cruz group "the evidence for or against the existence of totemism is very slight." In most of the Polynesian and Melanesian examples cited, the clan, or other social division, has more than one totem,—association and linkage.

Roth (W. E.) Australian huts and shelters. (*Man, Lond., 1909, ix, 49, 1 pl.*) Treats of primitive structures to withstand rain, etc., rude hut thatched with cabbage-palm leaves (hinterland of Princess Charlotte bay), frameworks of saplings roofed with brush,—crudest of all, "a long sheet of bark bent mid-way and fixed at both ends into the sand." To this are sometimes added upright canes along one of the open sides, up against which may be placed foliage or bark. A simple wind-break consists of "a sheet of bark fixed lengthways in the ground and propped up with two or more sticks."

Sarfert (E.) Zwei Bainingmasken. *Jhrb. d. städt. Mus. f. Völkerk.* zu Leipzig, 1907, ii [1908], 29-32, 1 pl.) Brief account of two *harrigia* dance-masks from the Baining Papuans of the western part of the Gazelle peninsula (New Pomerania). The bamboo framework interwoven with banana leaves has a *tapa*-covering.

— Seltene Waffen von Vuvulu. (*Ibid.*, 32-35, 1 pl.) Describes a dagger of dark palm-wood, a spear and three other weapons of red horn-beam, from Vuvulu (Maiti Is.).

Scherer (O.) Linguistic travelling notes from Cayagan, Luzon. (*Anthropos*, Mödling-Wien, 1909, iv, 801-804.) Gives vocabularies of Gogob (so-called "Kalingá") from near Tuao, N. W. of Tuguegarao on the Rio Chico de Cayagan, and Aeta (Negrito) of Pasigi in the interior

of the N. E. part of Luzon,—these languages are said to be hitherto unrepresented in the linguistic material from the island.

Schlaginhaufen (O.) *Reisebericht aus Süd-Neu-Mecklenburg*. (Z. f. Ethnol., Berlin, 1908, XI, 566-567.) Notes of travel in December, 1907. The language of the Mullama country is distinct from languages S. and W., particularly from that of the mountaineers of Butam,—the villages of Maletambit and Kau had never before been visited by Europeans.

Die Rand-Butam des östlichen Süd-Neu-Mecklenburg. (Ibid., 803-809, 3 figs.) Notes on the mountain tribes of the Rand-Butam, their settlements (3 or 4 huts with "men's house") and plantations, weapons (good spears), stone implements (replaced by European knives and axes), baskets, the *papua* secret society for men only and its ceremonies (pp. 605-608), physical characters (p. 809, measurements of a Butam man from Lagët; interesting foot-formation; Rand-Butam have characteristically broad noses).

Streifzüge in Neu-Mecklenburg und Fahrten nach benachbarten Inselgruppen. (Ibid., 952-957, 3 figs., map.) Notes on travels in May-August, 1908 in the east coast region of S. New Mecklenburg,—Mullama, etc., with visits to the Greenwich, Fisher and Gardner Is. The Greenwich islanders physically and culturally belong with the Micronesians.

Ein Besuch auf den Tanga-Inseln. (Globus, Braunschwg., 1908, xciv, 165-169, 6 figs., 2 maps.) Account of visit made in March, 1908 to the Tanga Is., N. E. of New Mecklenburg,—the largest 4 are inhabited. Men's house, a new-made grave, drum, canoes, etc., briefly described. Average measurements (stature, head-length and breadth, height and width of nose, cephalic and nasal indexes) of 31 men and 5 women given (stature 1647.4 for men; 1540.0, women; cephalic index 85.72 and 85.69). Ethnological collection shows influence of Mullama in New Mecklenburg.

Schmidt (W.) *Die soziologische und religiös-ethische Gruppierung der Australier*. (Z. f. Ethnol., Berlin,

1909, xli, 328-377.) Treats of tribes with sex-totemism, tribes with classless local totemism and paternal succession, tribes with totemless two-class system and maternal succession, tribes with circumcision and subincision, etc. The succession of races in Australia, according to Father S., has been: 1. Negritic (the lowest). Represented in Tasmania and part of S. E. Australia, in the latter with sex-totemism and paternal succession, local exogamy without hereditary marriage totemism. The oldest stratum (Tasmanians, Kurnai, Chepara had not the initiation-rite of knocking out teeth. The younger stratum had sex-totemism, the initiatory rite, and in great part took over the two-class system. 2. Primary "west Papuan" local-totemic culture with male succession S. Australian Narrinyeri, Narangga, Yerkla-Mining typical representatives). The initiation rite was circumcision. 3. "East Papuan" culture of the two-class system with maternal succession, intruding from the east. Characteristic is the mythology of the opposed sun and moon; initiation of youths not so important as in other culture-areas. In this area there are a southern (hawk-crow) group, a northern (kangaroo-emu theme), and a later mixed group. 4. In all the Central and South and a large part of W. Australia a "secondary 'west Papuan'" stage has arisen, characterized by cult of male ancestors, with conceptionism as its extreme expression. Its initiatory rite is subincision after circumcision. The views of Gräbner, Foy, Howitt, Spencer and Gillen, etc., are discussed, those of the first in particular.

Die Stellung der Aranda unter den australischen Stämmen. (Ibid., 1908, xl, 866-901.) Discusses the question of the position of the Arunta (Aranda); Language (S. thinks the multiplicity of languages arose in New Guinea, not in Australia itself); plant-totemism (parallel between Central and Northern Australia and New Guinea); *intichiuma* growth-ceremonies and food-taboo (comparison with Mabuiag of Torres Stra., etc.); marriage-taboo (in many points

Aranda agree with New Guinea peoples as against Australian tribes of E. W. and S.); ideas about conception (according to S., the Aranda belief is secondary and the *coitus* really has some special significance); the *churinga* and the "bull-roarer"; fundamental social elements (sex-totemism, clan-totemism,—predominance of latter due to New Guinea), etc. S. concludes that the "Aranda-culture" is not simple and primitive, but is really late and complicated, the remains of forms of several early stages of development grown into one, whose latest stage, regarded by many as primitive Australian, has originated outside that continent (i. e., in New Guinea), and, if Australia is to be considered to possess the beginnings of human evolution, must be separated altogether from what is really primitive there.

Schultz (E.) Ein samoanischer Architektenscherz. (Globus, Brunschwg., 1909, xcv, 289.) Note on carvings of vulva, penis and female breast on posts of a *fale tele* or guest-house in the village of Samatau, Upolu, South Aana,—an architectural joke, rather than a cultural atavism.

— Drei Sagen aus Ostpolynesien. (Ibid., 1908, xciii, 143-145.) German texts of three legends (The Huahine people steal a mountain, The revenge of the Moorea people and the recovery of the mountain, The sick man of Huahine and how he was roasted to death) told by a man of the little island of Moorea or Eimeo, west of Tahiti.

Seale (A.) The fishery resources of the Philippine Islands. Part I. Commercial fishes. (Phillip. J. Sci., Manila, 1908, iii, 513-531, 3 fgs., 12 pl.) Treats of anchovies, herrings, silversides, mackerels, mud-fishes, snappers, pompanos, sea-basses, mullets, milk-fishes, etc.—their native names and uses are indicated. The native fish-ponds are also described and figured. One of the illustrations represents "the guardian of a fish-pond with his family, etc."

Seligmann (C. G.) Linked totems in British New Guinea. (Man, Lond., 1909, ix, 4-9.) Treats of the chief peculiarities of the totemism of S. E. British New Guinea as represented

by the conditions at Wagawaga, a Milne Bay community (3 clans; dual grouping, of late largely ignored, although totem exogamy is still quite generally observed; no totem shrines; men showed more regard for father's totem than for their own; relation of man to father's totem plant less clear than to totem bird; cannibalism "ceremonial and solemn act of revenge" (detail of instance at Maiwata, a few years ago). See Lang (A.).

— A type of canoe ornament with magical significance, from south-eastern British New Guinea. (Ibid., 33-35, 1 pl.) Treats of 10 *munturis* or wooden carvings with typical bird designs (reef-heron, *weku*-bird, tern, cockatoo, etc.) and other minor motifs from canoes of the natives of Murua. They are of magical efficacy and highly prized.

Senft (A.) Die Ngulu- oder Mate-lotainseln. (Globus, Brunschwg., 1908, xciv, 303-304.) Contains a few notes on natives of Ngulu (50 in number), the only inhabited island of the group. The language has a rich vocabulary (30 terms are given) for the cardinal points, etc.

Sluyk (C. I. J.) en Adriani (N.) Teekeningen op grafsteden uit de Minahassa. (Int. Arch. f. Ethnogr., Leiden, 1908, xviii, 144-152, 4 fgs.) Treats of figures on the grave-stones in the cemetery on the spot where formerly was the Tombocloe village of Lola,—snake on roof, headsmen with sword, etc. The Dutch texts of several Tombocloe tales are given,—The snake *Wulawou*, the orphan child and the snake, *Woelann* and *Kawoeloesan*.

Smith (W. D.) A geologic reconnaissance of the island of Mindanao and the Sulu Archipelago. I. Narrative of the expedition. (Phillip. J. Sci., Manila, 1908, iii, 473-599, 4 fgs., 21 pl., 3 maps.) Some of the illustrations (Subanuns, Moro village, houses, etc., native salt-making) are of ethnologic interest.

Strehlow (C.) Einige Bemerkungen über die von Dr. Planert auf Grund der Forschungen des Missionärs Wetengel veröffentlichte Aranda-Grammatik. (Z. f. Ethnol., Berlin, 1908, xi, 698-703.) Criticizes the Aranda

grammar and texts published by Dr Planert in the *Z. f. Ethnol.*, 1907 (on the basis of material furnished by the missionary Wettengel). S. is a missionary at Hermannsburg, S. Australia. A note in reply by Dr. Planert is appended.

Südsee-Expedition (Die) der Hamburgischen Wissenschaftlichen Stiftung. (*Z. f. Ethnol.*, Berlin, 1909, xli, 689.) Note on progress of expedition in New Pomerania from November, 1908, to March, 1909. Much anthropological and ethnological material was obtained.

Thomas (N. W.) The disposal of the dead in Australia. (*Folk-Lore*, Lond., 1908, xix, 388-408, map.) Examines "the light thrown on racial problems by the funeral customs of the Australians," the relation between linguistic areas and burial customs, etc. The characteristic attitude of the natives of West Australia seems to be fear of the dead (and burial devices correspond, also divinatorial ceremonies, etc.); in the greater part of New South Wales simple burial prevailed; in Queensland exhumation and reburial of the bones is common; funeral cannibalism occurred with many tribes, especially as to children; the fire at the grave is with some tribes for the protection of the living, with others for the benefit of the dead; hut-building on the grave is sometimes connected with "magic," and sometimes has to do merely with mourning. Influence of Southeast New Guinea can be traced in some customs.

Thurnwald (R.) Reisebericht aus Buin und Kieta. (*Z. f. Ethnol.*, Berlin, 1909, xli, 512-532.) Notes on the country and peoples of the Buin region of Bougainville Island (Korömuda, Märe, O'kara, Barère, Rorowan, Dérehere) visited in April-September, 1908, and of the English portion of the Solomon Is.—Shortland group, Choiseul, Ysabel, etc., from September to December. The Buin culture is probably characteristic for the whole island. The "noble" families of Buin came probably from Alu and Mono.

Venturillo (M. H.) The "Bataks" of the Island of Palawan, Phil. Islds.

(*Int. Arch. f. Ethnogr.*, Leiden, 1908, xviii, 137-144.) Notes on physical character, habitat, food, snake-hunting, child-birth, naming, courting and marrying, dancing, diseases (fear of measles and small-pox), feasts, religion and mythology (gods Diwata and Angogro, other "saints"), fiesta of Saugbay, cures by the *babailan*, death and burial customs, government (patriarchal), crimes and punishments, agriculture, hunting (wild boar), basketry, trade, weapons (bow and arrow, blow-gun, lance), musical instruments (*codiape*-guitar; *badlong*; *lantoy*-flute).

Volz (W.) Die Bevölkerung Sumatras. (*Globus*, Brnischwg., 1909, xcv, 1-7, 24-29, 15 figs.) Treats of the various elements in the native population of Sumatra: Kubus (heathen and very primitive, numbering now but a few thousand), Bataks (650,000 at least; heathen; 4 tribes, Karo, Timor, Toha, Pakpak; culture influenced by Hinduism; cannibalism persists), Mandhelings (Mohammedanized Bataks), Alases and Gajos (inland Mohammedan peoples, the first counting some 8,000, the last 60,000 to 70,000 souls), coast-Malays (Menangkabau, Acheen; the latter fanatic Mohammedans, the former an older people), the "bush-Malays" of the east coast, the island peoples (the primitive Mentawai, Nias and Engano). Houses, general culture, race-characters are briefly considered. Besides remains of a very primitive ancient population (Kubus, etc.), Dr V. recognizes at least 4 Malay strata: Primitive Malay (pure in the Mentawai, mixed all over the island); Middle Javanese stratum (chief part of Bataks, etc.); Menangkabau Malays; "bush-Malays," closely related to the third. The Simbirings are "of Melanesian origin, bringing with them cannibalism." Javanese and Hindu elements are also noticeable and "the essential part of the culture of the inland peoples is due to India."

Von der Hamburger Südsee-Expedition. (*Ibid.*, 193-225.) Notes on progress of the explorations of the Hamburg Scientific Foundation in the Admiralty Is. and New Pomerania in Oct.-Nov., 1908. Bow-and-arrows,

now used only for shooting fish, were once used in war. Wood-carvings of strange and extravagant forms are invented and executed for sale to Europeans. In Talasen and Barrial in New Pomerania New Guinea influence is seen in houses, pile-dwellings, etc. In the region from Möve Bay to Cape Quoy pile-dwellings do not occur. The natives of the western section of the north coast of New Pomerania resemble very closely those of the Admiralty Is.

— *Erste Durchquerung von Neupommern.* (Ibid., 1909, xcvi, 64-67, 2 maps.) Brief account of the first crossing of New Pomerania from S. to N., from near Cape Markus to Rein gulf, with notes on natives (houses, weapons), etc. New Guinea influence (pile-dwellings, mask-dances, bull-roarer) appears on the S. coast up to Mövehafen. On the islands near Cape Markus was found a language with hitherto unknown variations from the Melanesian type. The languages of the region traversed are related to those of the southern coast and are of Melanesian stock.

Vormann (F.) Dorf- und Hausanlage bei den Monumbo, Deutsch-Neuguinea. (Anthropos, Mödling-Wien, 1909, iv, 660-668, 3 figs.) Treats of the situation and tribal relations, village organization, etc., of the Monumbo, with details of house-construction and arrangement. Also statistics of the villages of the Kozakoza group.

Waterston (D.) Skulls from New Caledonia. (J. R. Anthr. Inst., Lond., 1908, xxxviii, 36-46, 2 pl., 1 fig.) Gives results of cranioscopic examination, craniometric observations (measurements, etc.) of 3 adult and 1 young male, 3 adult and 1 young female skull from various parts of New Caledonia. The cephalic indices run from 67 to 77 (6 being 73 or below); the cubic capacity of males 1180 to 1500, of females 1185 to 1225 ccm. W. recognizes "a distinct N. C. type of skull." Evidences of "Polynesian, and possibly Mongolian intermixture" occur. The high degree of prognathism in 2 crania suggests a foreign element.

Winthuis (J.) Die Bildersprache des

Nordostatammes der Gazelle-Halbinsel, Neupommern, Südsee. (Anthropos, Wien, 1909, iv, 26-36.) Treats of the richness in figurative language of the northeastern tribe of the Gazelle Peninsula (New Pomerania). Examples relating to incest, betel-chewing, corporal punishment, parts of the human body, illegitimate children, beautiful children, eating and feasting, evil manners, dancing, sexual immorality, etc., are given. Also the native text, with interlinear translation, of the speech of a judge to a man (himself formerly also a native judge) who had committed incest with his step-mother (here the equal of the mother),—a speech that is a continuous run of figures.

Woodford (C. M.) Notes on the manufactures of the Malaita shell bead money of the Solomon Group. (Man, Lond., 1908, viii, 81-84, 1 pl., 1 fig.) Describes making of white, red and black shell bead money. Also a more precious sort of red money made from fragments selected from the most highly colored part of the *romu* shell, and from selected shells only,—it is said that two years are required to make a piece measuring in length from the hollow of the elbow-joint to the end of the middle finger. Black money is also made from a vegetable seed called *fulu*. A scarce kind of bead-money comes from Guadalcanar.

Zaborowski (S.) Les derniers anthropophages de Formose. (Bull. Soc. d'Anthrop. de Paris, 1908, v^e a., ix, 486-487.) Note on the portrait of a cannibal chief of the Taku-kan tribe of Formosa published in a Canton journal. These "savages" are being exterminated by the Japanese authorities.

AMERICA

A. Die ältesten Spuren des Menschen in Nordamerika. (Globus, Brunschwig, 1908, xciii, 270.) Brief résumé of facts in Hrdlička's *Skeletal Remains Suggesting or Attributed to Early Man in North America* (Washington, 1907).

Abeita (A.) The Pueblo Indians. (So. Wknn., Hampton, Va., 1909, xxxviii, 477-478.) Notes on religion, wo-

men's rights, irrigation, agriculture, election.

- Adams (H. C.)** Kaleidoscopic La Paz: the city of the clouds. (Nat. Geogr. Mag., Wash., 1909, xx, 119-141, 11 figs., 11 pl.) Contains notes on Quichua and Aymará Indians (water-carriers, *pongos* or house-servants, *cholos* or mixed bloods, dress and ornament, markets, music, children's mock bull-fight, etc.).

— Some wonderful sights in the Andean highlands. The oldest city in America. Sailing on the lake of the clouds. The Yosemite of Peru. (Ibid., 1908, xix, 597-618, 3 figs., 14 pl.) Contains notes on ruins of Tiahuanaco, dress and ornament of natives, Inca fortifications of Ollantaytambo, etc. The illustrations treat of Indian types, ruins of Tiahuanaco, village band, festival hats, *balas* of L. Titicaca, ruins of fortifications of Ollantaytambo, Pisac, etc.

— Cuzco, America's ancient Mecca. (Ibid., 1909, xix, 669-689, 10 figs., 8 pl.) Contains notes on the Quichua Indians (costume, shrines, relics in museum, spinning and weaving, *coca*-chewing) and the Inca ruins, etc. The illustrations treat of street scenes, Virgin of Cuzco, street-shrine, religious processions, old Inca wall, ruins of fortress of Sacsahuaman, the "seats of the Incas"; gathering fuel, Indian types, *poncho*-weaver, etc.

- Alphabet (The) in America.** (Amer. Antiq., Salem, Mass., 1909, xxxi, 149-151.) Based on Brinton. Treats of the phonetics of the Cakchiquel language.

- Alvarez (V. S.)** Breve noticia de algunos manuscritos de interés histórico para México, que se encuentran en los archivos y bibliotecas de Washington, D. C. (An. Mus. Nac. de Arqueol., México, 1909, i, 1-24.) Notes on MSS. of historic interest relating to Mexico in the archives and libraries of Washington, D. C. A number are of ethnological value.

- Ambrosetti (J. B.)** La Facultad de Filosofía y Letras de la Universidad Nacional de Buenos Aires y los Estudios de Arqueología Americana. (Anthropos, Wien, 1908, iii, 983-987, 4 pl.) Indicates scope of activities of the archeological section of the Faculty of Philosophy and Letters in

the National University of Buenos Aires and resúmenes the results of researches since 1903 in the N. E. of Argentina, future plans of work, etc.

- Ammon (W.)** Von São Bento nach Hansa, Süd-Brasilien. (Globus, Brunschwig, 1909, xcvi, 2-6, 3 figs.) Account of visit to German colonies of São Bento, Hansa, etc., in southern Brazil. The existence of a jargon, or mixed language, is noted on p. 6.

- Anthony (R.) et Rivet (P.)** Étude anthropologique des races précolombiennes de la république de l'Équateur. Recherches anatomiques sur les ossements (os des membres) des abris sous roches de Paltacalo. (Bull. Soc. d'Anthrop. de Paris, 1908, v^e s., ix, 314-430, 3 pl., 17 figs.) Treats with details of measurements, indices, etc., of the human remains (long bones, etc.), other than crania from the pre-Columbian rock-shelters of Paltacalo, Ecuador: Shoulder-blade, humerus, radius, cubitus, pelvis, femur, tibia, peroneum, bones of foot, proportions of body and stature (reconstituted from long bones, etc.), are considered from all points of view. The material studied consists of 142 male and 92 female bones, ranging from 4 female and 10 male radii to 28 female and 48 male femurs. The conclusion reached is that "the Indians of Paltacalo constitute a people of small stature, with robust and vigorous forms," averaging for men 1,573 and for women 1,453 mm. In these rock shelters occur specimens of pottery in a good state of preservation. See Rivet (P.).

- Anthropology (The) of the Greenland Eskimo.** (Nature, Lond., 1909, lxxix, 310-312, 2 figs.) Résumés data in K. Rasmussen's *The People of the North* (London, 1908).

- Araújo (O.)** Significado de la voz "Uruguay." (An. de Instruc. Prim., Montevideo, 1908, v, 762-767.) Discusses briefly the half-dozen or more etymologies offered and decides in favor of "river of birds." This derivation is set forth in Juan Zorrilla de San Martín's *Tabaré: Índice alfabético de algunas voces indígenas* (Montevideo, 1888).
- Arikara Creation myth.** (J. Amer.

- Folk-Lore, Boston, 1909, xxii, 90-92.)
- Arnold (Mary E.) and Reed (Mabel).** An Indian new year. (So. Wilmn., Hampton, Va., 1909, xxxviii, 24-27, 2 figs.) Brief account of the *picnawish*, or night dances, and "shoot-mark," of the "New Year" ceremonies in the first dark of the moon in September among the Karok Indians on the Klamath river, California. The dances last 3 days and it is the only time when Indian dress is worn. A curious figure is the "Santa Claus," or medicine-man. The old *régime* is fast disappearing and few Indians know much about many of these rites.
- Azul (J.)** How the earth was made. An Indian legend. (Assembly Herald, Phila., 1909, xv, 70-71, 1 fig.) Creation legend (first man out of darkness; dust-ball cast into air, flattened and enlarged; sun and moon made, also stars, trees and plants, animals, birds, lastly humans; flood caused by tears of baby; people turned to stone on mountain; new people made). A. is grandson of the Christian chief of the Arizona Pima, Antonio Azul.
- B.** Cerro de Pasco. (Globus, Brn-schw., 1908, xciii, 333-335.) Contains some notes on the houses, church, market, costume of people, etc., of this mining town in the heart of the Peruvian Cordillera.
- Barrett (S. A.)** Pomo basketry. (Univ. Calif. Publ. Amer. Arch. and Ethnol., 1908, vii, 233-278, 17 pl., 231 figs.) Treats of materials (fibers and rods; feather and shell decoration a characteristic feature), technique (great variety: twining, wickerwork, coiling), forms (great variety), ornamentation (design arrangement; elemental designs; triangular, rectangular, rhomboidal, linear, zigzag, diamond, quail-plume, etc.), patterns (diagonal or spiral patterns; triangles with zigzags, rectangles, rhomboids, triangles, lines, etc.; crossing patterns bordering triangles; horizontal or banded patterns; patterns covering the entire surface), elemental and pattern names (qualifying terms), etc., glossary (pp. 266-276). The pattern arrangements show striking variety and the ornamentation "consists of a great number of complex and varied patterns each composed of simple design elements, such as lines, triangles, rectangles, rhomboids, etc." Wickerwork is used little, both twining and coiling extensively. A valuable feature of this monograph is the wealth of aboriginal terms recorded. The Pomo "from birth until death used basketry for every possible purpose,"—secular and ceremonial.
- Barry (P.)** Folk-music in America. (J. Amer. Folk-Lore, Boston, 1909, xxii, 72-81.)
- Bartels (P.)** Kasuistische Mitteilung über den Mongolenfleck bei Eskimo. (Z. f. Ethnol., Berlin, 1909, xli, 721-725, 2 figs.) Cites data from F. Stecker, a missionary at Bethel, Kuskokwim river, Alaska, as to "Mongolian spots" in Eskimo,—some 15 cases in children from 2 weeks to 3 years were met with. Spots were also noted in adults, on the face, nose, etc. The Eskimo believe that children born with "blue spots," will have brothers and sisters. The native name is *keumerit*, "blue spot."
- Bascom (L. R.)** Ballads and songs of western North Carolina. (J. Amer. Folk-Lore, Boston, 1909, xxii, 238-250.)
- Bauer (F. M.)** Feste der Indianer in Peru. (Globus, Brn-schw., 1908, xciv, 109-110.) Brief account of the festivities (processions, masquerades, bull-fights) of the modern Peruvian Indians under Christian influence. The chief village dignitaries are the Majordomo and the Capitan.
- Bauer (W.)** Heidentum und Aberglaube unter den Maqateca-Indianern. (Z. f. Ethnol., Berlin, 1908, xi, 857-865.) Treats of life after death (wandering of dead,—no word for "soul,"—through the "realm of animals"; partial metempsychosis and metamorphosis of men into animals as reward and gift of the gods; no real cult of the dead; mixture of heathen and Catholic doctrines (invocation of the "lords of the mountains"), the magic bundle and ceremonies connected with it (differing somewhat on the Rio Tonto and in the mountains near Huauila), "magic" and "medicine" (as much esteemed now as under caciques;

shamans approved by tests; offering of first-gathered ear of maize); curing the sick (very little knowledge of herbs; sweat house; "sucking out" of disease by *carandero*; "invoking the spirit"; conjurations); washing hands of god-parents (mixture of heathenism and Christianity). The influence of Aztec culture is unmistakable (the shamans' calendar is perhaps borrowed). The Mazatec, some 18,000 or 20,000 in number, are scattered over the N. E. part of the State of Oaxaca, and their last cacique died about 1880. Their own name is *šš* (nasal).

Baulig (H.) Sur la distribution des moyens de transport et de circulation chez les indigènes de l'Amérique du Nord. (Ann. de Géogr., Paris, 1908, xvii, 433-456, map.) Well-documented study of means of travel and transportation among N. American Indians in Arctic region (dog-sled, kayak, umiak), northern forest (sled, toboggan, snow-shoe, bark canoe, etc.), Atlantic region (travel on foot, dug-out), Great Plains (bull-boat, travois, sled), Plateaus and interior basins ("packing"), Pacific coast (great dug-outs and pirogues in north, smaller in south; farther south, rude *balas*, etc.). The adaptation to natural conditions is noteworthy everywhere. The Indian trails (following "buffalo tracks") have become the highways and railroads of to-day.

Bean (R. B.) A theory of heredity to explain the types of the white race. (Philip. J. Sci., Manila, 1908, iii, 215-225, 5 figs., 7 pl.) Based on measurements of 923 male and 116 female students at the University of Michigan 1905-1907, among whom "4 primary, 4 secondary and 5 blended types" were noted. Feminine types are nearer in form to the primitive, not having become so differentiated. The prehistoric types of man in Europe have persisted to the present time, and are found in America somewhat modified; other types are found representing later intrusions into Europe,—a complete fusion of all types is in view. The trend of the "American type" is "in the direction of increasing height, blended coloring and mesocephaly." Blend

no. 1 of the white race in Europe was the Celt-Iberian.

Beatty (A.) Some ballad variants and songs. (J. Amer. Folk-Lore, Boston, 1909, xxii, 63-71.)

Bergen (J. T.) Our Sisseton pastors. (Assembly Herald, Phila., 1909, xv, 64-68.) Notes on Rev. J. Rogers (full-blood Santee), Rev. J. Eastman (Sisseton with French strain), Rev. L. Renville (Sisseton and French), Rev. M. Makey (full-blood Dakota) and other preachers. At the church of White River one of the elders is a son of Sitting Bull.

Beuchat (H.) et Rivet (P.) La langue Jibaro ou Siwora. (Anthropos, Mödling-Wien, 1909, iv, 805-822.) History of study, list of sources, grammatical sketch (pp. 810-822) with lexicographical and morphological notes, based on material in the Macas, Gualaquiza, Aguaruna and Zamora dialects. The authors show that the Xebera (on which Brinton based his Jivaro stock) is a stock by itself and not related to Jibaro, which, however, according to Drs R. and R., is not an independent linguistic stock.

— La famille linguistique Cahuapana. (Z. f. Ethnol., Berlin, 1909, xli, 616-634.) Proposes to style *Cahuapana* (from one of the tribes concerned) a linguistic stock, combining the Maina of Brinton and Xébero or Jébero, and occupying (or having occupied) the territory east of the Jibaros, south of the Zaparos, west of the Panos, Yameos, etc., and northeast of the Quichuas in the Ecuador-Peruvian region. The list of tribes given includes the Ataguates, Cahuapanas, Chayavitas, Chonchos, Jéberos, Lamas, Mainas, Roamainas, etc. A comparative Jébero-Maina-Cahuapana vocabulary is given (pp. 622-623), some grammatical notes (623-625), a French Cahuapana vocabulary (625-630) and texts (with interlinear French versions) of the *Pater Noster* in Jébero, Maina and Cahuapana; also Cahuapana texts of the *Ave Maria*, the *Credo*, the *Salve Regina*, the *Act of Contrition*.

Beyer (H.) Der Süden in der Gedankenwelt Alt-Mexikos. (Mitt. d. Anthrop. Ges. in Wien, 1908, xxxviii

228-231.) Discusses the idea of the "south" among the ancient Mexicans (Codex Borgia, etc.), names for "south," etc. The "south" was correlated with noon, the heat of the sun, day (as opposed to night), summer, sun (eagle), fire (stag), drought (stag), rainy season, rain, vegetation (*Xipe Totec*), rain-god (*Tlaloc*), water (*atl*), flame (butterfly), burnt earth (*tlachinolli*), descending red sun-god, red quadruped (stag), red bird (*Arara*), red bird-head (vulture-head), red maize god (*Tlaltlauqui cinteotl*), red *Tezcatlipoca*, etc.

Über den mexicanischen Gott Quetzalcoatl. (Ibid., 1909, xxxix, 87-89, 4 figs.) Treats of the representations, etc., of Quetzalcoatl in the art of the ancient Mexicans. According to B., Quetzalcoatl is the god of the Mexican zodiac, and to its last constellation, the termination of the zodiacal serpent, attached naturally such ideas as "end," "death," "under world," etc. It was separated from Quetzalcoatl as a special mythological figure and the latter incorporated particularly the ideas belonging to the first constellation.

Die Naturgrundlage des mexicanischen Gottes Xiuhtecutli. (R. d. Et. Ethnogr. et Sociol., Paris, 1908, I, 394-397.) B. seeks to identify Xiuhtecutli, the patron of the red *arara*, as a sun-god, or day-god. His festival is also discussed.

Tamoanchan, das altmexikanische Paradies. (Anthropos, Wien, 1908, III, 870-874.) B. seeks to identify Tamoanchan, the ancient Mexican Paradise, with the Milky Way, and to interpret its other names and relations in that light (Aztec and Maya mythology coincides on this point).

Der "Drache" der Mexikaner. (Globus, Brunschwig, 1908, xciii, 157-158, 11 figs.) Treats of the "dragon" in ancient Mexican mythology,—the "feathered serpent," *Quetzalcoatl*, identified by B. with *Xiuhtecutli*. B. holds that the authors of the ancient Mexican calendar-system had a zodiacal circle of 13 parts, of which *Quetzalcoatl-Xiuhtecutli* was the first and the last member.

Die Polarkonstellation in den Mexikanisch-Zentralamerikanischen Bilderhandschriften. (A. f. Anthrop., Brunschwig, 1909, N. F., VII, 245-248, 12 figs.) Treats of the polar constellation in the ancient Mexican and Maya MSS., the signs and names for "north," etc., the monkey-head sign for the constellation "monkey," representing the circumpolar region of the sky, etc.

The natural basis of some Mexican gods. (Amer. Antiq., Salem, Mass., 1909, xxxi, 19-22.) Treats of the goddess Chantico, a solar deity, *Itzapapalotl* ("obsidian butterfly," a personification of the southern hemisphere of the nocturnal sky), *Tezcatlipoca* ("black" and "red" forms, identified with the starry vault), *Huitzilipochtli* (identical with the "red" form of *Tezcatlipoca*), etc.

Biasutti (—) Presentazione di tre crani Haida. (A. p. l'Antrop., Firenze, 1908, xxxviii, 355.) Note on 3 notably large Haida skulls from Skidegate presented to the Italian Anthropological Society by Rev. Dr. Llwyd of Seattle, and now in the Florence Anthropological Museum.

Blackston (A. H.) Recently discovered cliff-dwellings of the Sierras Madres. (Rec. of Past, Wash., 1909, VIII, 20-32, 14 figs.) Gives results of author's explorations of cliff-dwellings in a large cave on La Madre Bonita mountain. No human bones were found, and everything indicated peaceful occupation.

Blanchard (R.) Les tableaux de métissage au Mexique. (J. Soc. d. Amér. de Paris, 1908, N. S., VIII, 59-66, 2 figs.) Treats of the paintings representing mixed bloods (various degrees of *métissage* of whites with Indians and negroes in Mexico) in the Paris Museum of Natural History and the National Museum of Mexico. The 10 paintings (each representing father, mother and child, at their ordinary occupations, etc.) in the Paris Museum were the work of Ignacio de Castro some time in the 18th century, and the other 16 in Mexico were possibly his, or came from his studio. The large canvas in Mexico is from the brush of another artist. Certain differences in the categories

in the three works are pointed out. The numerical and graphic expressions of the 16 degrees of *métissage* and the Spanish names are given. The Castro paintings have been studied in detail by the late E. T. Hamy in his *Décades Americaines*. See Zaborowski (S.).

- Boas (F.)** Eine Sonnensage der Tsimshian. (Z. f. Ethnol., Berlin, 1908, XI, 776-797.) Gives, with glossary and interpretative grammatical notes, the phonetic text in native language (and German translation) of the Tsimshian legend of the day-star and the night-star. The story is a variant of the myth of the origin of the sun, characteristic of the Shoshonean area farther south. The tale of the "test-sun," known also to the Kutenai, does not occur among the Salishan tribe lying between the Taimshian and the Shoshoni.

— Needle-case from Grinnell Land. (Amer. Anthropol., Lancaster, Pa., 1909, N. S., XI, 135-136, 1 fig.)

- Brannon (P. A.)** Aboriginal remains in the middle Chattahoochee valley of Alabama and Georgia. (Ibid., 186-198, 9 figs.)

- Breton (A.)** Archeology in Mexico. (Man, Lond., 1908, VIII, 34-37, 3 figs.) Briefly résimés the investigations of Batres at Teotihuacan, and of Maler at Acanceh in Yucatan.

- von Buchwald (O.)** Die Kara. (Globus, Brunschwig, 1908, xciv, 123-125.) Argues on historical and linguistic grounds (place-names, etc.) extinct Caras of Quito region of Ecuador were one with the modern Colorados, or rather the Cayapa correspond to Caras and the Colorados to the confederate Puruha. According to v. B., the Colorado language contains (outside of certain numerals) a large number of words related to Quichua and Aymará; some also like Chimu.

- Altes und Neues vom Guayas. (Ibid., 181-183.) Notes on the Guayas region of Ecuador, ancient and modern: *Balsas*, canoes, fishing (use of *barbasco* for benumbing fish, ancient house and furniture (Indians have but one word for mosquito net and bed, i. e., *cama*, "bed"), agriculture and labor smack of the ancient conditions, place-names. Ac-

cording to v. B., "the Canelos now speak Quichua, while in Andoas a degenerate dialect of the same language is found."

— Zur Wandersage der Kara. (Ibid., 1909, xcv, 316-319, map.) Cites from the *Historia* of the Jesuit Father Anello Oliva, written in 1598 and published at Lima in 1895, the migration legend of the Kara as told by Katari, cacique of Cochabamba and hereditary chronicler of the Incas. Father Oliva regarded the tale as fabulous. v. B. seeks to show at least a kernel of historical truth in it, as the local coloring indicates (the delta of the Guayas, etc.). This legend gives the real genealogy of the Incas from Tumbe; the table, according to v. B., was afterwards falsified at Quito.

- Bushnell (D. L., Jr.)** Shell embroidery from Florida. (Amer. Anthropol., Lancaster, Pa., 1909, N. S., XI, 320-321, 1 fig.)

— Primitive salt-making in the Mississippi valley. (Man, Lond., 1908, VIII, 65-70, 1 pl., 4 figs.) Treats of the stone-lined and pottery-lined graves near Kiswick, Jefferson Co., Missouri, discovered in 1902, and the difference between the pottery from near the spring in the lowland and that found on the higher. The contents of 22 graves are indicated. According to B., "the graves and all objects found in the upper area,—including the salt-pans,—were unquestionably made by the Shawnees, or rather a branch of that tribe." To them may belong also the cloth-marked pottery from near the spring.

- Chamberlain (A. F.)** Some Kutenai linguistic material. (Amer. Anthropol., Lancaster, Pa., 1909, N. S., XI, 13-26.)

- Kutenai basketry. (Ibid., 318-319.)

- Über Personennamen der Kitonaga-Indianer von Britisch-Kolumbien. (Z. f. Ethnol., Berlin, 1909, xli, 378-380.) Cites 53 names of men and women of the Kutenai tribes of S. E. British Columbia and N. Idaho, with etymologies where known.

- Der "Kartensim" der Kitonaga-Indianer. (Globus, Brunschwig, 1909, xcv, 270-271, 4 figs.) Notes the pos-

session by the Kutenai Indians of a "map-sense" and reproduces 3 river-maps made by them.

— (A. F.) and (I. C.) Studies of a child. IV. Meanings and "Definitions" in the 4th and 48th months. (*Pedag. Sem.*, Worcester, 1909, xvi, 64-103.) Give some 1000 "definitions" in form given by authors' little daughter.

Chamberlin (R. V.) Some plant-names of the Ute Indians. (*Amer. Anthropol.*, Lancaster, Pa., 1909, N. S., xi, 27-40.)

Channing (W.) and Wissler (C.) The hard palate in normal and feeble-minded individuals. (*Anthrop. Pap. Amer. Mus. Nat. Hist.*, N. Y., 1908, I, 283-349, 8 fgs., 9 pl.) Detailed discussion with numerous tables, of measurements with Boas apparatus of casts of hard palate of some 1000 feeble-minded individuals and 500 school-children with certain other control-measurements (the tabulated data, including age, stature, weight, and, for the feeble-minded also head-measurements, are on file at the Museum). There seems to be "a slight difference in the degree, but not in the kind of variability between the normal and feeble-minded." Such differences are due to "a general retardation effect during the first few years of life."

Cobb (C.) Some human habitations. (*Nat. Geogr. Mag.*, Wash., 1908, xix, 509-515, 3 fgs., 2 pl.) Treats of fishermen's camps, Shackelford Bank, North Carolina; Seminole Indian hut at Miami, Fla.; goat-herder's house in Texas; harvest huts (annually built) on the now drained lake of Sabii (Italy), prehistoric in type.

Cross (J. F.) Eskimo children. (*So. Wknn.*, Hampton, Va., 1908, xxxvii, 433-437, 6 fgs.) Reprinted from the *American Missionary Magazine*,—author is missionary at Cape Prince of Wales, Alaska. Treats of affection for children, early child-life, plays and games, occupations of children, etc.

Cross (T. P.) Folk-lore from the Southern States. (*J. Amer. Folk-Lore*, Boston, 1909, xxii, 251-255.)

Cubas (A. G.) and Maudslayi (A. P.) Plano hecho en papel de maguey,

que se conserva en el Museo Nacional de México. (*An. d. Mus. Nac. de Arqueol.*, México, 1909, I, 49-54, 1 pl.) Treats of a plan on maguey-paper in the Mexican National Museum, evidently a plan of the western portion of the *barrios* of Tlal-teholco, Cuicopan and Moyotla of the old city of Tenochtitlán (Mexico).

Davis (J. B.) Two Cherokee charms. (*Ann. Arch. and Anthropol.*, Liverpool, 1909, II, 131-135.) Gives English texts of an ancient Cherokee (Oklahoma) "charm to destroy an enemy," done in the dark of the moon to cause the soul of the other to fade away, and of a charm for snake-bite. Also a few items of white folk-lore from Oklahoma (charm for burned child, charm to hive swarming bees).

— The liver-eater: a Cherokee story. (*Ibid.*, 134-138.) English text only a tale of "Liver-Eater" or "Spear-Finger," a witch-story. The author is of Cherokee descent.

Debenedetti (S.) Excursión arqueológica á las ruinas de Kipón, Valle Calchaquí, Provincia de Salta. (*Univ. Nac. de Buenos Aires*, Publ. Secc. Antropol., 1908, No. 4, 1-55, 35 fgs., map.) Gives results of archeological expedition in January, 1906, to the ruins of Kipón, 8 kilom. S. of Payogasta in the Calchaquí valley, and describes objects found. Circular, ellipsoid and amorphous graves, the first two categories being *pircadaz*.

Dixon (R. B.) The mythology of the Central and Eastern Algonkins. (*J. Amer. Folk-Lore*, Boston, 1909, xxii, 1-9.)

Dr. Walter Lehmann's Forschungen in Costa Rica. (*Globus Brnschw.*, 1908, xciv, 367-368.) From letter of Oct. 27, 1908, giving brief account of results of investigations in Costa Rica,—archeological (Guacacaste, El Viejo, Sta. Barbara, etc.), ethnological (Chiripó and Bribrí vocabularies obtained). Extensive archeological and ethnological collections were made.

Flächer (E.) Patagonische Musik. (*Anthropos*, Wien, 1908, III, 941-951.) Discusses the music of the 50 Patagonian songs recorded on the phonograph by R. Lehmann-Nitsche (q. v.): Tone, melody, rhythm, time.

etc. The general range is tenor-haritone; scales mostly series of tones and half-tones; the melody declines; the composition is very simple; the value of the rhythm is uncertain.

Fletcher (A. C.) Standing Bear. (So. Wkcn., Hampton, Va., 1909, xxxviii, 75-78.) Treats of *Moncha-non-ehi*, or "Standing Bear" (d. Sept., 1908), the Ponca chief, who sued out a writ of *habeas corpus*, leading to the famous decision of Judge Dundy in 1879 that "an Indian is a person within the meaning of the law, etc."

Flores (C.) Modo de elegir esposa entre los indios naturales del pueblo de San Gaspar, Est. de México. (An. d. Mus. Nac. de Arqueol., Mexico, 1909, i, 59-66.) Brief account of the method of choosing a wife among the Aztec Indians of San Gaspar, south of Tzompahuacán, in the State of Mexico.

Foreyth (L. M. N.) Aztec ruins in southern Mexico. (Rec. of Past. Wash., D. C., 1909, viii, 145-154, 185-191, 5 fgs.) Treats of the ruins of Teotitlan del Camino and vicinity (El Puerte, La Iglesia, mounds of Petlanco, Pueblo Viejo, Meija, etc.), San Martin (ruins, petroglyphs, caves, etc.) and objects found,—stone implements, gold and silver figures, ornaments, etc., pottery, clay figurines, etc.

Fric (A. V.) Die unbekannten Stämme des Chaco Boreal. (Globus, Brnnschw., 1909, xcvi, 24-28, 3 fgs.) Notes on the Karraim, Sotegraik, Angaité, Sanapaná, Moro (or Morotoko), Kurumro, Camakoko, etc., visited by the author. Account of Basébigi, "the Alexander the Great" of the Camakoko. From the Moro F. obtained wooden axes, articles of clothing and ornament (including wooden moccasins), war-flutes, etc.; and from the Kurumro a signal horn and a bone flute.

Friederici (G.) Die Squaw als Ver-räterin. Ein Beitrag zur Psychologie des Weibes. (Int. Arch. f. Ethnogr., Leiden, 1908, xviii, 121-124.) Treats of the rôle of the squaw or Indian woman as traitor in the relations of her people with the whites. Dutch in 1633; French (La Salle

and Tonty) in 1679; English in 1763 (Pontiac at Detroit); Spanish (De Soto); English in 1776 (Cherokee at Watauga); in Mexico (Marina, the mistress of Cortez); in Darien (Fulvia the mistress of Balboa); in the Antilles and in S. America, several instances in early Spanish days. According to Dr F., the greater sensuality of the Indian women, who found the Europeans sexually more satisfying, was what often made traitors of them. Women's predilection for the new, strange, foreign, and the contrast between the life of the Indian squaw and that of the European female, also played a part.

Furlong (C. W.) Amid the islands of the Land of Fire. (Harper's Mo. Mag., N. Y., 1909, cxviii, 335-347, 10 fgs.) Contains some notes on the Yahgan Indians of Ushuaia, Tierra del Fuego, and on Wagein, a Tehuelche prisoner,—physical characteristics, etc. *Ushuaia* is said to mean "mouth of the bay" in Yahgan (p. 338). The number of aborigines in the Territorio del Magelhanes to-day is estimated at "not over 600" as compared with 10,000 fifty years ago.

Gardner (W.) Old races unearthed. (Amer. Antiq., Salem, Mass., 1909, xxxi, 77-79.) Gives results of investigations in September-November, 1906 of a mound in Douglas county, Nebraska,—portions of 9 crania and bones indicating as many skeletons were found. The lower level implements were crude, those of the upper level, with the crania indicating a higher type.

Gates (H.) Traces of a vanished race in Kandiyohi county, Minnesota. (Rec. of Past. Wash., D. C., 1909, vi, 155-162, 9 fgs.) Gives results of excavation in August, 1907, of mounds on east shore of Green Lake and account of objects found (skulls and other human bones, fragments of pottery, flints, etc.).

— Traces of a vanished race in Kandiyohi county, Minnesota. (Ibid., 102-108, 7 fgs.) Treats of the "summit mounds" on the shore of Green Lake, three of which have been opened, but one only adequately excavated, in 1907. "Fire altars" or hearths, calcined bones (none

- human), etc., were discovered. They may have been "signal-fire" or "torture mounds."
- Gates (P. G.) Indian stone structures near Salton Sea, California. (*Amer. Anthrop.*, Lancaster, Pa., 1909, N. S., XI, 322-325.)
- van Gennep (A.) Netting without a knot. (*Man*, Lond., 1909, IX, 38-39, 1 fig.) Points out a parallel for the knotless netting of the Angoni (described by Miss Werner) in fishing-nets of certain Indians of N. W. Brazil described and figured by Dr. Koch-Grünberg.
- Gansch (H.) Wörterverzeichnis der Bugres von Santa Catharina. (*Z. f. Ethnol.*, Berlin, 1908, XI, 744-759, 2 figs.) Classified vocabulary taken down from Korikrá, daughter of the chief Kanyahama, killed by the Bugre-hunters, also texts of several brief songs. Dr. E. Seiler, who edited the vocabulary, furnishes (pp. 744-749) a brief ethnographical introduction.
- Giglioli (E.) Il XVI Congresso Internazionale degli Americanisti a Vienna 8-14 settembre 1908. (*A. p. l'Antrop.*, Firenze, 1908, XXXVIII, 329-333). Résumé of proceedings, list of chief papers, etc.
- Gilder (R. F.) The "Spanish Diggings," Wyoming. (*Rec. of Past.*, Wash., D. C., 1909, VIII, 3-10, 6 figs.) According to Mr G., "There is conclusive evidence that there was a vast population here at the time these quarries were worked," and there is no section of the entire world which can show any quarries of such magnitude as the 'Spanish Diggings.' Immense numbers of stone implements of jasper, flint, quartzite, etc., must have been begun or finished here. The author thinks the so-called "mound-builders" took most of the product of these quarries.
- Excavation of earth-lodge ruins in eastern Nebraska. (*Amer. Anthrop.*, Lancaster, Pa., 1909, N. S., XI, 56-79, 7 figs., 6 pl.). See Hrdlička (A.).
- Glufrida-Ruggeri (V.) Die Entdeckungen Florentino Ameghino's und der Ursprung des Menschen. (*Globus*, Brunschwg., 1908, XCIV, 21-26, 2 figs.) Résumés and discusses Ameghino's discoveries of fossil men and apes in the Argentine, Patagonia, etc., as set forth in his *Les formations sédimentaires du crétacé supérieur et du tertiaire de Patagonie*, published in the *Anales del Museo Nacional de Buenos Aires* for 1906. Also treats of the various theories of the characters of the most primitive type of man (Ranke, Hagen, Kollmann, Schwalbe, etc.). The great antiquity of the skulls of Miramar (*Homo pampaeus*, A.) etc., is doubted by G.-R., who differs also from Ameghino in other respects (the S. American origin of man, the recapitulation theory in extreme, etc.). Ameghino's views find support in Ranke and Kollmann. His view that the *Saimiri* is the direct descendant of the tertiary *Homunculiidae* is more favorably viewed by G.-R., who holds a theory of the precocious and independent origin of man. According to G.-R., the Australian, in his bodily proportions, corresponds to the stage of the European youth.
- Un nuovo precursore dell' uomo, il "Tetraprothomo argentinus." (*Riv. d'Italia*, Roma, 1909, XII, 137-147, 3 figs.) Describes after Ameghino the *Tetraprothomo argentinus*, determined from a femur and atlas discovered in the fossiliferous stratum of Monte Hermoso, about 60 km. N. E. of Bahía Blanca, and discusses its position in the evolutionary series. As the name indicates, Ameghino places 3 successive genera between it and man,—*Triprothomo*, *Diprothomo* and *Prothomo*. Ameghino sees the evolution of man in S. America. The origin of such precursors of man G.-R. would attribute to "mutation" (De Vries).
- de Goeje (C. H.) Beiträge zur Völkerkunde von Surinam. (*Int. Arch. f. Ethnogr.*, Leiden, 1909, XIX, 1-34, 20 pl., 30 figs.) Gives results of expedition to Surinam (Kaliñas, Arawaks, Ojanas and Trios Indians): Physical character (old men of 30-60 years not rare among Trios), clothing and ornament (particularly in dances), villages, houses and furniture, canoes, food, weapons and implements, weaving, ornamentation and drawing (explanation of figures

- and designs, pp. 6-10; numerous face-paintings and original drawings), music (flute and dance melodies), mythology and folk-lore, shamanism, customs and usages (evil spirits, flood-legend, "cure" of medicine-men, death-festival,—text of song sung by women, other dances and festivals, wasp-test of youths), character of Indians, names (personal and tribal, geographical), etc. The illustrations are excellent. This article is a supplement to the author's previous monograph in Vol. xvii of the same journal. The description of the expedition has appeared in Vol. xxv, 2d s. of the *Tijdschr. v. h. Konink. Nederl. Aardrijksk. Gen.* (1908).
- Golder (F. A.)** Eskimo and Aleut stories from Alaska. (J. Amer. Folk-Lore, Boston, 1909, xxii, 12-24.)
- Hamy (E. T.)** Les voyages de Richard Grandisire de Calais dans l'Amérique du Sud, 1817-1827. (J. Soc. d. Amér. de Paris, 1908, n. s., v, 1-20.) Grandisire saw *gouchos* at Montevideo, traveled in Brazil, Uruguay, Paraguay, etc., and died on the banks of the Jary, among the Caçocira Indians.
- Les Indiens de Raselly peints par Du Viert et gravés par Firens et Gaultier (1613). Étude iconographique et ethnographique. (Ibid., 21-52, 6 figs., 1 pl.) Treats of three interesting documents dating from 1613,—engravings by Firens and Gaultier after paintings by Du Viert of the "Topinambou" Indians from the island of Maragnon, brought to France by the Sieur de Razilly. At pp. 28-40 is reprinted the account of the return of de Razilly with these Indians, from the *Mercur françois* of 1617, with additions from Father C. d'Abbeville's *Hist. de la Miss. des Pères Capucins en l'Isle Maragnon* (Paris, 1614). The Indians in question (the portraits are here reproduced) numbered 6,—an old chief; a youth, the son of one of the principal men of the island; a youth of 20-22 years; two other youths of about this age; and another warrior of 38 years. The first three died sometime after their portraits had been made. Two types at least are represented among them. The three surviving were baptized at Paris in 1613.
- Harrington (M. R.)** Some unusual Iroquois specimens. (Amer. Anthropol., Lancaster, Pa., 1909, n. s., xi, 85-91, 3 figs., 1 pl.)
- Archeology of Everglades region, Florida. (Ibid., 139-142, 2 figs.)
- Among Louisiana Indians. (So. Wknn., Hampton, Va., 1908, xxxvii, 656-661, 5 figs.) Notes of visit in spring of 1908 to Chitimacha of Bayou Tèche (the makers of the best cane baskets in the United States; "rain making"); the Houma of Terrebonne parish (only 2 or 3 pure bloods left; language of Muskogean stock spoken by just 2 old women); Kossati of Calcasieu parish (some 100 in number, still using their mother-tongue; blow-gun; weaving Spanish moss into saddle blankets); and Alibamu (a few live with the Kossati).
- Harsha (W. J.)** Social conditions on Indian reservations. (Ibid., 1909, xxxviii, 441-445, 4 figs.) Notes on the results of the old wild life and the tribal usages surviving from the social organization born of it (e. g., "Indian giving," absence of orphans, intense tribal pride coming from crude socialism), effects of education, religion, etc., mescal eating, gambling, granting of land in severalty, marriage and divorce, etc. Gradual absorption of the red race by the white is predicted.
- Industrial conditions on Indian reservations. (Ibid., 1908, xxxvii, 557-566.) Notes on Indians of Warm Springs, Oregon, Apache prisoners at Fort Sill, Oklahoma, Saddle Mountain Kiowa, Arapaho of Washita River, Uinta Ute, effect of irrigation, Indians as laborers, etc. According to Supt. H., "altogether the industrial situation on the reservations is full of hope and promise."
- Hartwig (A.)** Ueber die Schädel-funde von Gentilar (Z. f. Ethnol., Berlin, 1908, xi, 957-960.) Brief account of discovery of mummified skeletons with grave-gifts of feathers, weapons, ornaments, baskets, pottery, etc. (no metal objects), at

Gentilar (now but an insignificant settlement of fishing Indians) in the *pampa lamragal* of northern Atacama (Chile). Four skulls were presented by the author to the Anthropological Society. These remains indicate the presence of man in this region at a period when the land was fruitful and the environment not so harsh. The mummies were wrapped up in the skins of birds or in fabrics of vicuña wool, —the bird-skins and absence of metal distinguish the Gentilar finds from those of Quillagua.

Heape (W.) The proportion of the sexes produced by whites and colored people in Cuba. Abstract. (Proc. R. Soc., Ser. B, Vol. 81, London, 1909, 32-37.) Based on data of chief sanitary officer of Cuba for 1904-5-6. Treats of racial proportion of the sexes (white 108.44 m. to 100 f.; colored 101.12 m. to 100 f.), sexual ratio in legitimate and illegitimate births (whites illegitimate 104.4 m. to 100 f., legitimate 107.78 m. to 100 f.; colored illegitimate 96.76 m. to 100 f., legitimate 106.76 m. to 100 f.), breeding seasons (two sharply defined each year, simultaneous in both races), effect of breeding seasons on proportion of sexes (greatest excess of f. in both races at times of greatest fertility), limitation of effect of extraneous forces (heredity limits influence), effect of town and country life on sex ratio (higher proportion of f. born in towns).

Henning (P.) Estudio sobre la fecha "4 Ahau" y la cronología basada en ella. Escrito con motivo de la desobstrucción de la antigua Teotihuacan. (An. d. Mus. Nac. de Arqueol., México, 1909, 1, 25-48, 1 pl.) Argues that "the glyph Ahau" represents decidedly the face of Quetzalcoatl-Huracán, as, according to the aborigines, he appeared at the time of the *Ehecatl natliuh*.

Herrera (J. E.) El verdadero reino de "El Dorado." (Rev. Histor., Lima, 1908, III, 122-128.) Notes on the gold-mines of the regions of Loreto and San Martín, the reality upon which grew up the legends of El Dorado, El Gran Paytite, La Casa del Sol, El Reyno de los Oma-

guas, El Imperio de Enin, Ambaya, Rúpac-Rúpac, etc.

Herrick (E. P.) Holy week and Easter in Cuba. (So. Wknn., Hampton, Va., 1909, XXXVII, 212-217, 4 figs.) Written from Protestant point of view.

Hervé (G.) Les observations de J. Narborough sur l'anthropologie des sauvages de la Magellanique. (R. de l'Ec. d'Anthrop. de Paris, 1908, XVIII, 390-392.) Reproduces, from the third book of de Brosse's *Histoire des navigations aux Terres australes*, the notes of Narborough (who in 1669-1671 visited the Straits of Magellan by command of King Charles II) on the savages of Elizabeth Is. and elsewhere in Fucgia. They are of considerable anthropological value. The English account of the voyage was published in 1604.

Hrdlička (A.) Contribution to the knowledge of tuberculosis in the Indian. (So. Wknn., Hampton, Va., 1908, XXXVII, 626-634.) Résumés recent investigations by the author among the Menominee, Oglala Sioux, Quinault, Hupa, Mohave, and at the school at Phoenix, Arizona. The chief causes are hereditary taint in the young, development of pulmonary form from tuberculous glands or other tuberculous processes, facility of infection, exposure to wet and cold, influence of other than diseases of the respiratory tract (doubtful), dissipation, indolence, etc., want and consequent debilitation, depressing effect in non-reservation schools on the newly-arrived child of the numerous regulations in vogue, contact with white consumptives, etc. See for details the author's volume on this topic.

— Report on the skeletal remains [found in earth-lodges in Eastern Nebraska]. (Amer. Anthrop., Lancaster, Pa., 1909, N. S., XI, 79-84, 1 fig.) See Gilder (R. F.)

Humbert (J.) Les documents manuscrits du British Museum relatifs à la colonisation espagnole en Amérique et particulièrement au Vénézuéla. (J. Soc. d. Amér. de Paris, 1908, N. S., V, 53-57.) Notes on the famous Welser (1528-1566) Ms., letter of Juan de Urpín (1638), reports of governors, etc., Mss. relating to the

"Guipuzcoan Company of Caracas," etc.

Ignace (É.) La secte musulmane des Malés du Brésil et leur révolte en 1835. (Anthropos, Wien, 1909, iv, 99-105, 405-415; 3 figs.) First part treats of the theology, liturgical rites (prayer, musical instruments, year) of the *Malés* or *Musulmis* (their own name), Mahometan negro slaves from West Africa in Bahia, Rio de Janeiro and Pernambuco, concerned in a revolt in 1835. Pt. II, gives the historical data of the revolt.

Janvier (T. A.) Legends of the City of Mexico. (Harper's Mo. Mag., N. Y., 1909, cxviii, 434-440, 1 fig.) English texts only of Legend of the Callejon del Muerto (unfulfilled vow and results), Legend of the Altar del Perdon (tale of a miracle-picture), Legend of the Aduana de Santo Domingo (love story).

Jetté (J.) On the language of the Ten'a. II. (Man, Lond., 1908, viii, 72-74.) Treats of the "emphasizers" (agglutinant roots, or suffixes, which are added to words in order to make them an object of special attention) *a, yá, rá*.

— On the language of the Ten'a. III. (Ibid., 1909, ix, 21-25.) Treats of "root-nouns," number-differentiation, construction of nouns, compound nouns, etc., in the Ten'a, an Alaskan Athapaskan tongue. "Root-nouns" are "short, monosyllabic or dissyllabic, exceptionally trisyllabic." The substitution of "equivalent phrases" for simple nouns is common. "Suffix nouns" are capable of all the constructions of "root-nouns." Apart from exceptional cases "the number of a noun is not expressed by a modification of the noun itself, but by a modification of the verb,"—this occurs in two ways.

Kessler (D. E.) The Indian influence in Music. (So. Wkcn., Hampton, Va., 1909, xxxviii, 168-170.) The author seems to believe that the Ghost Dance music, the chant of the thunder-god, the swan ceremonial, the Omaha love-song, the lesser songs of the Plains Indians, the eagle ceremonials of the California tribes, etc., prove the origin of the American aborigines from "the sunken Atlantean continent," and that "the In-

dian holds within himself the records of a soul civilization which it is for us to carry over and restore, thus perpetuating the records of past intellectual achievement."

— The passing of the old ceremonial dances of the Southern California Indians. (Ibid., 1908, 527-538; 6 figs.) Treats in detail of the seven days Eagle *fiesta* for the dead in honor of Cinon Duro, the last hereditary chief (d. 1907) of the Mesa Grande Indians of San Diego county.

Kissenberth (W.) Reisebericht vom Araguay. (Z. f. Ethnol., Berlin, 1909, xlii, 532-533.) Notes on visit to Cayapós and Carajás. K. obtained a fine ethnological collection of 450 objects, including Carajá masks, stone axes, lip-stones, wooden vessels, etc.

— Reisebericht. (Ibid., 261-262.) Notes on travel in Maranhão, 1908. K. secured a vocabulary of ca. 1000 words of the Guajaráras, a Tupi tribe, now almost completely civilized, also a few phonographic records of songs, etc. From a village of Canella Indians 150 km. from Barra do Corda, some ethnographic notes, ethnological specimens, photographs, a small vocabulary, etc., were obtained.

Koch-Grünberg (T.) Indianische Frauen. (Arch. f. Anthropol., Brnschw., 1909, n. f., viii, 91-100, 3 figs., 1 pl.) Treats of women and their life among the Kobéna, Desána, etc., of the region of the Icána and Caiarý-Uaupés region of N. W. Brazil. Initiation of girls, marriage-ceremonies (exogamy; polygamy comparatively rare; adultery very rare; divorce easy, where no children), position of women (rather high, and influence on husband, etc., considerable; their opinion esteemed, even in intercourse with foreigners, in trade, etc., sometimes practise "medicine"). Indian woman as mother (child-birth, ceremonial rites of parents, mother-love, death and burial), childhood (companionship of parent, imitation of elders, weaning, apparatus for teaching to walk, pets, toys, ornaments, behavior), woman as house-keeper, etc. A very sympathetic picture is drawn of Indian

home-life and of the rôle of woman in it.

Die Hianákato-Umaúa. (Anthropos, Wien, 1908, III, 952-982.) Concluding part of monograph on the Hianákato-Umaúa Indians. Treats of relation of language to other tongues (brief comparative vocabulary, p. 953); grammatical sketch (noun, post-positions, suffixes, onomatopoeia, foreign loan-words; pronouns, verb, suffixes, negation, etc.) This language belongs to the Caribbean stock.

Frauenarbeit bei den Indianern Nordwestbrasilien. (Mitt. d. Anthrop. Ges. in Wien, 1908, XXXVIII, 172-181, 2 pl., 13 figs.) Treats of preparation of manioc (raping, pressing out, etc.) and pottery making (forming, burning, varnishing), among the women of the Kobéua, Arawak, Tucano and other Indians of the Rio Cuduiary, Içaná, Tiquié, etc.

Der Fischfang bei den Indianern Nordwestbrasilien. (Globus, Brunschwg., 1908, XCIII, 1-6, 21-28, 20 figs.) Treats of fish-catching among the Indians of N. W. Brazil, particularly the region of the upper Negro and its great tributaries, the Caiary-Uaupés, etc. Fishing with bow-and-arrow (methods of arrow-release, form, etc., of bow and arrows; children begin early with small bows), nets (of great variety large and small for fish, crabs, etc.), traps and weirs (for large and for small fish), the large traps, etc., are communal property; fish-poisons, etc.

Jagd und Waffen bei den Indianern Nordwestbrasilien. (Ibid., 197-203, 215-221, 21 figs.) Treats of hunting and weapons among the Indian (Caiary Uaupés and Içaná tribes, Kobéua, Buhágana, Macéua, Yahúua, Yabahána, Siusi, Umaúa, Guarúua, Desána, etc.). Bird snares and traps (used also for certain animals), war-clubs, shields, poison-tipped spears are described. Detailed account is given of the blow-pipe with its poisoned arrows, quiver, etc.,—the weapon *par excellence* of these Indians. The Makú are also particularly skilful in the use of European firearms. The dance-

shields of the Caiary-Uaupés region are artistically made.

Einige Bemerkungen zur Forschungsreise des Dr. H. Rice in den Gebieten zwischen Guaviare und Caquetá-Yapurá. (Ibid., 302-305, 2 maps.) Notes and criticisms on the account in *The Geographical Journal* (London), for 1908, of the travels of Dr. Rice in the region between the rivers Guaviare and Caquetá-Yapurá, a country visited by K. in 1904. Rice's *Carigona* is a misprint for *Carijona*;—these Indians are the Carijona of Crevaux, the Umaúa of Koch; his *Huilote*, another misprint for *Uitoto*; his *Anagua* may be for *Omagua*.

von Koenigswald (G.) Die Botokuden in Südbrasilien. (Ibid., 37-43, 2 figs.) Treats (largely from personal observation and the author's ethnological collection) of the Botocudos of the region between the Iguaçu and Rio Negro on the north and the plateaus of Sta. Catharina on the south, eastward to the Serra do Mar and westward to the Rio Timbó. Relations with the whites (*bugreiros* or "Indian killers"), warfare (pitfalls, etc.), life and activities, dwellings, hunting (bow and arrow, pitfalls, snares, slings, spears, etc.), weapons (powerful bows and arrows, wooden spears and clubs, bolas, etc.), pottery, weaving and basketry (in low state), navigation (canoes not known; rafts of *taguara*-skins; Botocudos good swimmers), etc. Von K. considers the Botocudos to be the remains of the *Carijós* of the writers of the 16th century and after. They number still several hundred.

Die landesüblichen Bezeichnungen der Rassen und Volkstypen in Brasilien. (Ibid., 194-195.) Treats of the designations of races and peoples in the Brazilian vernacular,—list of terms, with explanations, applied to whites, Indians, Negroes, Asiatics and the various mixtures of all or any of these. To the people of the colonies in S. Brazil a European German is a *Deutschländer*. In the ignorant interior all non-Latin white foreigners are *Ingles* or *Americano*. As designating descendants of camp Indians *vaqueiro* in the north corresponds to *gaúcho* in the south.

Creoulos (creoles) are the descendants of the African slaves. Persons of mixed race possessing approximately three-fourths white blood are counted white. The terms applied to mixed bloods of various degrees of race and of intermixture are numerous. Of these *Mameluco*, *Cariboca*, *Cabra*, *Cafuso*, *Tapanhua*, are of Tupi origin. To children of the variously mixed parents the term *pardo* is generally applied.

— Die Cayuás. (Ibid., 376-381, 6 figs.) Treats of the Cayuás ("wood men"), a Guaraní people of N. Paraguay and southern Matto Grosso. Name, language, physical characters, senses and disposition, food (chiefly game and fish; maize, wild-honey; *ahiva*, maize-drink; food boiled or roasted except fruits and honey), meal-times and festivals (songs and dances with *ahiva* or *chicha*), dwellings and furniture, plantations, weapons (bow and arrow, throwing-stick, spears, clubs, etc.), dug-out canoes, ornaments (necklaces, bracelets, lip-plug or *tembeté*, etc.), domestic and family relations (polygamy common, number of children per mother small), diseases (few) and death, religion (dim ideas of good and bad beings; fear of demons, etc.). Some outwardly Christian but inwardly heathen. The Cayuás have got along peaceably with the whites.

— Die Coroados im südlichen Brasilien. (Ibid., xciv, 27-32, 45-49, 26 figs.) Account of the Coroados of S. Brazil (now numbering several thousand on the central Rio Paraná), based on personal observations in 1903-1904. Situation and relations with whites, name, physical characters, dress and ornament, family life, position of women and children (much affection for young; marriages between Indians and whites common, with Negroes rare), division of labor (men build huts and prepare plantation), dwellings and furniture (earthen vessels, pots, baskets, nets, wooden mortars and pestles), fire-making, daily life, meals, food (chiefly meat, fish, maize), drink (intoxicating liquor from maize, dances and festivals (*kaiagire* or combats; men's dances in festival huts), do-

mestic animals (monkeys, parrots especially), hospitality, sickness (aid of *kofungé* or medicine-man sought), death and funeral, religion (traces of early Catholic influence; belief in higher being called *Tapém*), mythology ("most Coroado myths are of modern origin," according to K.; the settled Coroados are nominally Catholics), chiefship, weapons (spears, clubs, bow and arrow skillfully used), ambushing, music (signal-horns, flute, rattle, drum, weaving, basketry and pottery (work of women). Canoes are unknown.

— Die Carajá-Indianer. (Ibid., 217-223, 232-238, 44 figs.) Treats of the Carajá Indians (with one exception the illustrations refer to the Carajahis) of the central Rio Araguaia region of Brazil. History and contact with whites, language (women are said by Ehrenreich to use many expressions peculiar to them), counting (up to 20 on fingers and toes), tribal systems (numerous borders: Carajahis, Javahés, Chamblós, etc.), physical characters (face "Mongolian" in aspect with advancing age), hair dressing (great hand-combs; bodily hairs extracted), tribal signs (blue-black circular scar on each cheek), lip-ornament (*tembeté* of mussel shell, wood or, rarely, polished stone), ear-rosette, senses well developed and early trained), industries and occupations (hunting, fishing, agriculture), plantations, turtle-hunting, hunting and fishing methods and "laws," prairie-firing, bee-hunting, tree-climbing, food (great eaters; dislike milk, cheese, butter, beef and flesh of all their own domestic animals; fond of fruits,—cultivate melons, pine-apples and bananas), drink (liquor made from manioc roots; cultivate tobacco), clothing and ornament (necklaces, armlets, anklets, feather-crowns, body-painting, etc.), festivals (very numerous), animal dances, mask-dances (in secret places forbidden to women), houses and furniture, domestic animals (*araras*, parrots; dog and cat from Europeans; all sorts of wild animals kept), inland journeys for weapon-wood, etc., weapons (bow,—festive bow used in ceremonies; characteristic arrows; fish and

- turtle arrows; spears and clubs), musical instruments (few; horn as trumpet, gourd rattles, ankle-rattles in dances, etc.), canoes (made by men; broad paddle, ornamented), division of labor (pottery, weaving, basketry by women), social relations, chiefs (elected by all males of village; often shamans as well), crime and punishment (chief is judge), youth and marriage, position of woman (not servile), pregnancy and child-birth, childhood, disease and death, burial and mourning, religion (ideas of good and bad spirits; converted Carajás heathen at heart).
- Krause (F.)** Bericht über meine ethnographische Forschungsreise in Zentralbrasilien. (Z. f. Ethnol., Berlin, 1909, xii, 494-502, map.) Résumé results of investigations in the central Araguaya region in 1908. Notes on the Carajá Indians (habitat, houses, food, agriculture, physical characters, dress and ornament, weapons, pottery, art, song and music, woman's language with an intercalated *k* between two vowels, position of woman, *couvade* no longer in vogue, disease and "medicine," dance and other masks, songs taken on phonograph), Cayapo, etc. At the mouth of the Tapirape is a Tupi tribe, the Tapirape, and inland toward Sta. Maria, the Tapuyan Cayapo.
- Kroeber (A. L.)** Notes on Shoshonean dialects of southern California. (Univ. Calif. Publ. in Amer. Arch. and Ethnol., Berkeley, 1909, viii, 235-269.) Grammatical and morphological notes on Cahuilla, Agua Caliente, San Juan Capistrano, Gabriellito, Serrano, Chemehuevi, Kawaiisu, Kern River, Giamina, with vocabularies of all except Kawaiisu, Kern River. The Giamina may have been a link between the Kern River and S. California Shoshonean. The Serrano dialects differ from one another more than was formerly believed. San Juan Capistrano is rather a subdivision or dialect of Luiseño.
- California basketry and the Pomo. (Amer. Anthropol., Lancaster, Pa., 1909, N. S., xi, 233-249.)
- The Bannock and Shoshoni Languages. (Ibid., 266-277.)
- Laval (R. A.)** El cuento del medio pollo. Versiones chilenas del cuento del gallo pelado. (R. de Der., Hist. y Letras, Buenos Aires, 1909, xxxii, 526-538.) Gives 3 Chilean versions (from Concepción, Colchagua, Quillota) of the tale of the bald chicken, and compares them with the Araucanian and Argentinian stories reported by Lenz and Lehmann-Nitsche. In Chile are current the phrases: *Ser ó paracer una cosa el cuento del gallo pelado* and *ser ó paracer el cuento del guyo pelao*, used to indicate that a subject is never-ending, a tale too long, etc. See Lehmann-Nitsche (R.).
- Lee (F. L.)** Harvest time in Old Virginia. (So. Wkman., Hampton, Va., 1908, xxxvii, 566-567.) Recollections of 50 years ago.
- Christmas in Virginia before the war. (Ibid., 686-689.) Notes on Christmas doings (present-giving, dinner, toys, Noah's ark, song, etc.) on an old-fashioned plantation.
- Lehmann (W.)** Reisebericht aus S. José de Costa Rica. (Z. f. Ethnol., Berlin, 1908, xi, 925-929.) Notes on travels early in 1908, particularly in Guanacaste, etc.; Excavations at Sta. Barbara (Mexican style recognizable in pottery), El Vicjo (pottery different from that of Sta. Barbara); stone-sculptures of Buenavista, El Panamá. During his three months stay in Guanacaste L. collected some 2,000 specimens, including gold objects from Sta. Barbara and La Virgen and several wooden masks from Nicoya. A Bribri vocabulary and mythological texts (Pittier's published material was tested) were obtained; also much Chiripó linguistic material.
- Reisebericht aus Managua. (Ibid., 992-993.) Notes of travel in Nicaragua and Costa Rica: Mexican influence marked in Ometepe; the Corobici (wrongly termed Carib) probably had a culture of their own (afterwards degenerating); Mosquitos and Sumos (vocabularies obtained); "foot-prints" on shore of L. Managua (these L. attributes to a quite recent formation, possibly a volcanic outbreak in prehistoric times).
- Reisebericht aus Managua. (Ibid., 1909, xii, 533-537.) Notes on expedition of 1908-1909 in the

Managua region. L. obtained a few words of the now extinct Chorotega or Mangua, data concerning the mask-dances of the Indians of Montimbé near Masaya with specimens of masks and musical instruments, vocabularies of the Sumo Indians of the Rio Bocay, and of the Ramas of Rama Key and Monkey Pt., some Mosquito and Carib mythological material, etc. According to L. the extinct Matagalpa is a dialect of Sumo.

— Der sogenannte Kalender Ixtlixochitl. (Anthropos, Wien, 1908, III, 988-1004.) Gives Spanish text from Ms. in Paris National Museum (belonging to the Goupil collection) treating of the 18 monthly festivals of the Aztec year. Part of the Ms. may have been written by Ixtlixochitl, a descendant of the kings of Tezcucó. Some of the glosses appear to be in a language unknown to Dr. L., possibly a tongue of the province of Oaxaca.

Lehmann-Filhés (Margarete). Die letzten Isländer in Grönland. Eine isländische Sage. (Z. d. V. f. Volksk., Berlin, 1909, XIX, 170-171.) Cites in German version, from Dr. Jón Thorkelsson's *Thjóðsögur og menn-moeli* (Reykjavik, 1899), an Icelandic legend concerning the last Icelanders in Greenland,—the massacre of the people of Veithiðfjörður by the Eskimo of W. Greenland during church-service. The basis of the tale is a Ms. of 1830-1840 in the public library of Reykjavik discovered by Dr. T. This legend, which doubtless is not all invention, informs us that the Eskimo settled on the W. Greenland coast in the region in question after the Icelanders.

Lehmann-Nitsche (R.) Patagonische Gesänge und Musikbogen. (Anthropos, Wien, 1908, III, 916-940, 10 pl., music, 8 fgs.) After resuming previous literature of subject, gives accounts of author's phonographic records of songs and of the musical bow among the Patagonians (also its occurrence elsewhere in the world). Some 50 songs were recorded from Tehuelches in La Plata, the same who had been at the St. Louis exposition (see *Amer. Anthropol.*, 1905, 157). The music-bow

and its parts are described and figured (specimens are in the museums of La Plata, Berlin, etc.). The Tehuelches have probably borrowed their peculiar musical bow from the Araucanians, with whom it has possibly been the result of the combination of old European instruments, bow and flute.

— ¿Quiére que le cuente el cuento del gallo pelado? Estudio folklórico. (R. de Der., Hist. y Letras, Buenos Aires, 1908, xxx, 297-306.) Gives text in Spanish of "the tale of the bald cock," as related by a countrywoman of the province of San Luis, Argentina. Also the Spanish translation of an Araucanian (from Lenz) "tale of a pullet." L. thinks the "bald cock" of this legend was some sort of pelican or cormorant. All that is now current of the tale is the inquiry of the children of Buenos Aires and Montevideo, "Would you like to hear the tale of the bald cock?" If the person questioned answers *Si quiero* (yes, I do), the interrogator replies, "I didn't tell you to answer *si quiero*, but *si quiere le cuento*, etc., and so on ad infinitum. The tale belongs with No. 80 of Grimm (and "Henny Penny," etc.) The refrain in question seems to be known also in Colombia and Venezuela and in Curaçao. In the Dutch island the formula is: *Bo hè mi contabes un cuentu di gajj pilon?* See also Laval (R. A.).

Leupp (F. E.) Fighting tuberculosis among the Indians. (So. Wknn., Hampton, Va., 1908, xxxvii, 586-592.) Resumes efforts of Government, etc. See Hrdlička (A.).

Lindsey (E. J.) Indians helping themselves. (Assembly Herald, Phila., 1909, xv, 68-70.) Notes on Indians of Ft. Peck reservation, Montana,—out of 1,710 only 480 are getting rations.

Ling Roth (H.) Moccasins and their quill-work. (J. R. Anthropol. Inst., Lond., 1908, xxxviii, 47-57, 1 pl., 19 fgs.) Treats of the moccasins (Kickapoo, Shoshoni, Apache, Hudsons Bay, etc.) and their ornamentation, in the collection of the Bankfield Museum, Halifax. The various methods of quill-work are discussed and the development of such decora-

tion indicated. The decorative use of quills on leather may have originated from basket work by fixation of the sharp ends. Direct sewing on is "a later development which may have originated with seed or bead work."

Lowie (R. H.) *The Chipewyans of Canada*. (So. Wknn., Hampton, Va., 1909, xxxviii, 278-283, 3 figs.) Notes (based on visit in 1908 to the L. Athabasca region) on habitat, occupation, dwellings (chiefly conical lodges "similar to the tipis of the Plains tribes, but smaller and of cruder construction"), birch-bark vessels, skin-dressing, transportation, hunting and fishing, social organization, religion (nominally Christian), amusements (favorite "hand-game"), etc.

— An ethnological trip to Lake Athabasca. (*Amer. Mus. J.*, N. Y., 1909, ix, 10-15, 4 figs.) Notes on visit in summer of 1908 among Chipewyan Indians. These aborigines, not yet on reservations, still hunt and fish in primitive fashion about L. Athabasca, L. Claire and the Slave river. Culture much modified by influence of Catholic mission and Hudson's Bay Co. Have adopted a whole cycle of Cree myths, also Cree tea-dance. They exhibit the Athabaskan traits of great simplicity of organization and extraordinary susceptibility to extraneous influences.

Lumholtz (C.) A remarkable ceremonial vessel from Cholula, Mexico. (*Amer. Anthropol.*, Lancaster, Pa., 1909, N. S., xi, 199-201, 3 figs.)

McAfee (C. B.) Studies in the American race problem. (*J. Afric. Soc.*, Lond., 1909, viii, 145-153.) Review and critique of A. H. Stone's *Studies in the American Race Problem* (N. Y., 1908), rather too favorable to the book.

McClintock (W.) Bräuche und Legenden der Schwarzfussindianer. (*Z. f. Ethnol.*, Berlin, 1908, xi, 606-614.) Gives German texts of legends of the Beaver-bundle (adoption), Seven Brothers (Great Bear), Lost Children (Fleisches), Scar-face (origin of sun-dance; Venus, Jupiter, Polar-star).

— Medizinal- und Nutzpflanzen der Schwarzfuss-Indianer. (*Ibid.*, 1909,

xi, 273-279.) Lists, with native, scientific and common names, uses by Indians, etc., a collection of herbs and plants now in the Carnegie Institute at Pittsburg: *Materia medica* (38 titles), plants for ceremonials (3), berries and wild vegetables used for eating (14), perfumes (4), Black-foot names for flowers (7).

Malin (W. G.) *The Sac and Fox Indians of Iowa*. (So. Wknn., Hampton, Va., 1908, xxxvii, 481-485, 4 figs.) Notes on domestic life, burial ceremonies, religious ideas, etc. The "340 pure-blood Indians live on 3,000 acres of land," and many of them in very primitive style in typical wickiups, but more progressive ones in frame houses. Of their creation legend the author says, "they appear to believe and accept it as honestly and adhere to its teachings as faithfully as do their white brethren the Bible story of the Garden of Eden."

Martinez (J.) *The Pueblo of Taos*. (*Ibid.*, 1909, xxxvii, 500-503.) Brief notes on houses, dress, conservatism, agriculture and stock-raising, religion, etc. There is still a tendency to distrust the white men.

Mena (R.) Caballos que trajeron los conquistadores. (*An. d. Mus. Nac. de Arqueol. México*, 1909, i, 113-117, 7 pl.) Treats of the horses used by the Spanish Conquistadores of Mexico, their trappings, markings, etc. The representations of the horses of the Europeans in the Mexican native Ms. of the period enable one to identify the breed and this may be of value to horse-raisers to-day in selecting European animals to cross with the Mexican stock. The Conquistadores used "Andalusian" horses.

Merriam (C. H.) Human remains in California caves. (*Amer. Antiq.*, Salem, Mass., 1909, xxxi, 152-153.) Note on cave-remains in the Miwok country,—the human bones found must be ancient and belong to "a people who inhabited the region before the Mewuk came."

Meyer (J.) und **Seler** (E.) Sechs mexikanische Wachsfiguren. (*Z. f. Ethnol.*, Berlin, 1908, xi, 960-961.) These wax-dolls probably belonged in some crib, as is the custom. The South European cribs and the Mex-

ican wax-dolls seem to belong together.

Mills (W. C.) Explorations of the Seip mound. (Ohio State Archeol. and Hist. Soc. Publ. in Archeol., Columbus, 1909, II, 1-57, 40 figs.) Describes mound and its exploration,—site, charnel-houses, cremated and uncremated burials, graves—gifts, artefacts (ornaments, ear-rings, plates, axes, awls, etc., of copper; bone awls, needles, bear-teeth, bone gorgets, effigy eagle claws of bone; cut and polished human jaws; shell beads, ornaments, gorgets, drinking cup; flint knives and spears; bast fiber cloth, tanned skins; fragments of pottery; mica in blocks and also cut into geometric forms, etc.). From the 48 burials were secured "upwards of 2,000 specimens representing the highest art of prehistoric man in Ohio." The Seip mound is pre-Columbian, and belongs with the Harpers mound.

Moeller (J.) Religiöse Vorstellungen und Zauber bei den Grönländern. (A. f. Religsw., Lpzg., 1909, XII, 409-411.) Cites from Mrs Rink's *Kajakmänner, Erzählungen grönländischer Seehundsfänger* (Hamburg, 1906) items concerning taboos, spirits of dead men (lost by accident and not found), ceremonies in connection with the killing of a bear and the disposition of the flesh.

Moffett (T. C.) Christian Indians in the making. (Assembly Herald, Phila., 1909, XV, 58-64, 6 figs.) Notes on Digger Indians of California, Makah, Nez Percés, Dakota, Five Civilized Tribes, Pima and Papago, Mohave and Walapai, Navaho, Pueblo, Iroquois, Stockbridge (Mohican) Indians of Wisconsin, etc., indicating work accomplished and in progress.

Moreira (A. P.) Zur Kennzeichnung der Farbigen Brasiliens. (Globus, Brnschw., 1909, XCIII, 75-78.) Treats of the colored population (negroes in particular) of Brazil, their condition, character, etc. This consists of products of the mixture of 1. Brazilian Indians. 2. Negroes from various parts of Africa (already crossed sometimes with Arabs, etc.). 3. Asiatics (natives of Portuguese India, etc.) and Chinese. 4. Crosses of these 3 with white Brazilians and

Europeans. The descendants of the Indian aborigines show the effect of the education of their ancestors by Europeans, as well as the result of alcohol, syphilis, tuberculosis, and other things due to white contact. No special type seems to have been developed in this *métissage*, and the same may be said of the Asiatic *mélange*. M. believes that lack of a sense of acquisition (*laziness*), immorality, and dishonesty (the three failings certain Negrophobes always emphasize) cannot be attributed to the Negroes of Brazil as a race,—these failings being not greater than those of the whites. Nor do they characterize the Mulattos. In Brazil both Negroes and Mulattos serve in all sorts of stations from those of manual labor to the professions (physicians, druggists, clergy, teachers, lawyers, merchants, engineers, etc.). One of the most noted teachers of Bahia, Florêncio, is a Negro. Among those having more or less Negro blood are: G. Díaz, one of the most famous of Brazilian poets; Rebouças, noted lawyer, and his son, a professor in the Polytechnic at Rio; Jekitinouha, great statesman; T. Barretto, famous jurist, philosopher, poet and writer; Tavares, court-physician; Patricinio, one of the best of S. American writers; G. Crespo, Portuguese poet and deputy.

Morice (A. G.) The great Déné race. (Anthropos, Mödling-Wien, 1909, IV, 582-606, 4 pl., 14 figs.) Treats in detail of habitations (summer dwellings of northern and western Déné, Apache lodges and Navaho summer houses; winter habitations; circular huts or tents), house-furnishings and etiquette, outbuildings; cooking and eating (unspeakable and queer dishes; methods of cooking; gourmandizing, food-preserving, drinking), smoking and snuffing, etc.

Mythology of the Menominees. (Amer. Antiq., Salem, Mass., 1909, XXXI, 10-14.) Creation and deluge legend, probably from Hoffman.

von Nordenfalköld (E.) Südamerikanische Rauchpfeifen. (Globus, Brnschw., 1908, XCIII, 293-298, 16 figs.) Treats of the occurrence of tobacco-smoking in S. America at the time of the discovery and con-

quest; archeological evidence of the tobacco-pipe in S. America in pre-Columbian times (more evidence than is commonly thought, in the Argentine, Chile, Brazil, Colombia, Venezuela); distribution of the reed-form pipe (widely scattered in N., S. and Central America, and evidently a primitive form, ancient and pre-Columbian); distribution and development of the reed-pipe of reed and wood in the Chaco; development of reed-pipes of burnt clay in Rio Grande do Sul; the different types of angular pipes (the "monitor" pipe is common in Patagonia and Chile, but nowhere else in S. America), etc. The variety of pipes is much greater in N. than in S. America. Pipes are undoubtedly pre-Columbian in S. America, but tobacco-smoking was not so general until (as in N. America) the whites began to cultivate the narcotic. By the time of the Conquest tobacco-smoking in the Calchaqui region seems to have been suppressed by the use of coca. In Peru the use of coca seems to have prevented altogether the development of tobacco-smoking.

Ostermann (L.) The Navajo Indians of New Mexico and Arizona. (*Anthropos*, Wien, 1908, III, 857-869, 6 pl.) Present condition, organization (neither chiefs nor lawmakers), domestic life (simple and primitive, women largely independent, mother-in-law taboo), dwellings (winter and summer houses), character (resourceful beggars, hospitable, adepts in lying for personal advantage, skilful thieves in small things, honest upon honor, gamblers, fond of whiskey, curious, dignified, affectionate, patient), dress and ornament, sheep, stock-raising and farming, silver-work.

Outes (E. F.) Sobre el hallazgo de alfarerías Mexicanas en la Provincia de Buenos Aires. (*Rev. d. Mus. de La Plata*, Buenos Aires, 1908, xv, 284-293, 12 fgs.) Treats of three small terra cotta figures (human faces, part of head of coyote?) found recently at the Laguna de Lobos, Province of Buenos Aires. These objects resemble so strikingly certain figurines from San Juan de

Teotihuacan in Mexico, that O. does not hesitate to assign to them a Mexican origin, but offers no explanation for their presence (accident, doubtless, if really exotic) in Buenos Aires.

Duclos (E. H.) and Bücking (H.). Estudio de las supuestas escorias y tierras cocidas de la serie pampeana de la Republica Argentina. (*Ibid.*, 138-197, 6 fgs., 4 pl.) After careful consideration and examination (chemical, microscopical, etc.) of the alleged finds of fire-refuse and "terra cotta" at Monte Hermoso, the Barranca de los Lobos, etc., at various periods since 1865, and thought by some authorities to be human in origin (ashes of fire, bits of pottery), the authors conclude that the scoria-substance in question comes from andesite lavas, while the "terra cotta" is eruptive matter. There is no reason whatever to attribute them to man.

Owen (L. A.) Another paleolithic implement and possibly an eolithic from northwestern Missouri. (*Rec. of Paat*, Wash., 1909, VIII, 108-111, 2 fgs.) Describes a paleolith and a yellow jasper eolith from "the glacial drift antedating the loess of a bluff on the Missouri river near Amizonia, about 8 miles from St. Joseph."

Parker (A. C.) Secret medicine societies of the Seneca. (*Amer. Anthrop.*, Lancaster, Pa., 1909, N. S., XI, 161-185, 14 fgs., 2 pl.)

Snow-snake as played by the Seneca-Iroquois. (*Ibid.*, 250-256, 2 fgs., 1 pl.)

Payne (L. J.) A word-list from East Alabama. (*Bull. Univ. of Texas*, Austin, 1909, Repr. Ser. No. 8, 1-3, 279-391.) Author says "I am convinced that the speech of the white people, the dialect I have spoken all my life, and the one I have tried to record here, is more largely colored by the language of negroes than by any other single influence. In fact, the coalescing of the negro dialect with that of the illiterate white people has so far progressed that, for all practical purposes, we may consider the two dialects as one" (p. 279). This article is reprinted from *Dialect Notes* (Cambr.), 1908-9, v, 279-288, 343-391.

Peabody (C.) A reconnaissance trip in Western Texas. (*Amer. Anthropol.*, Lancaster, Pa., 1909, N. S., XI, 202-216, 8 figs., 1 pl.)

Pearson (K.) Note on the skin-color of the crosses between negro and white. (*Biometrika*, Cambridge, Engld., 1908, VI, 348-353, 1 pl.) Based on inquiries among medical men in the West Indies and photographs of mixed types. P. believes that "the suggestion that skin color 'Mendelizes' should not be vaguely made until some very definite evidence in its favor is forthcoming." Other characters (lip, hair, *alae nasi*, etc.) may fit the Mendelian theory closer than skin color.

de Périgny (M.) Les dernières découvertes de M. Maler dans le Yucatan. (*J. Soc. Amér. de Paris*, 1908, N. S., V, 95-98.) Résumés the account by T. Maler of the four groups of ruins discovered by him in the Usumasintla region in 1891 and revisited in 1905.

Yucatan inconnu. (*Ibid.*, 67-84, 1 fig., 2 pl., map.) Gives results of author's explorations in the unknown region west of the Rio Hondo, etc. The ruins of Chocoba, Rio Beque (large edifice differing in architecture from those of N. Yucatan), Nohochna (named by author; different from those of N. Yucatan, resembling somewhat those of Rio Beque), Uoltunchi, Yaabichna (with hieroglyphs), Nohcacab (formerly an important place), etc. The names Chocoba (warm water), Nohochna (large house), Uoltunchi (rounded stone), Yaabichni (many rooms), Nohcacab, were given by M. de Périgny, the discoverer of these important ruins.

Pierini (F.) Los Guarayos de Bolivia. (*Anthropos*, Wien, 1908, III, 875-880, 2 pl.) First part of account of the Guarayo Indians of Bolivia, whose language serves to carry one over a large portion of that republic (according to Father P. the Guarayo "understand the tongue of the Sirionós"). A brief comparative vocabulary in Paraguayo (Guarani), Guarayo and Spanish is given (p. 876). The subjection of these Indians dates from 1793.

Powhatans (The). (*Amer. Antiq.*, Salem, Mass., 1909, XXXI, 147-149.)

Based on J. Mooney's article in the *Amer. Anthropol.*

Preuss (K. T.) Reise zu den Stämmen der westlichen Sierra Madre in Mexiko. (*Z. d. Ges. f. Erdk. zu Berlin*, 1908, 147-167, 6 figs.) Gives account of author's visits of 7, 9 and 3 months respectively to the Cora, Huichol and "Mexicano" (Aztec) Indians of the western Mexican Sierra Madre, with brief descriptions of their villages and social life, ceremonials, dances, etc. (*mitote*, calabash-festival, *peyote*-dance, festival of field-cleansing), songs, myths and ideas about nature. Dr P. collected some 300 myths and legends (Cora 49, Huichol 69, "Mexicano" 175), besides many religious songs and some 2300 ethnological and ethnographic specimens (of which nearly 2/3 are of a religious nature).

Ethnographische Ergebnisse einer Reise in die mexikanische Sierra Madre. (*Z. f. Ethnol.*, Berlin, 1908, XI, 582-604, 9 figs.) Treats of Huichol, Cora and Mexicano, chiefly religion, mythology, folk-lore (German text of "Christ and the negroes," pp. 584-585; rain-song, p. 588; masks, ceremonial songs and paraphernalia, altars, soul-lore, songs for the dead, maize-roasting festival, representations of deities, cave of rain-goddess, arrow-offerings for sun, morning-star, earth-goddess, etc.; creation myth and song, pp. 601-603; feast of young gourds), etc. In the 16 months of his travels Dr P. collected 5000 pages of texts with interlinear translation.

Ein Besuch bei den Mexicano (Azteken) in der Sierra Madre Occidental. (*Globus*, Brunschwg., 1908, xciii, 189-194, 1 fig.) Dr P. stayed 3 months of 1907 in the "Mexicano" (Aztec) town of S. Pedro in the western Sierra Madre. Notes on dance of new maize-ears and winter-festival (compared with those of the Cora and Huichol), folk-medicine, etc. German text (p. 192) of myth of ascension of evening star, with comments.

Reid (M. W.) Calumet. (*Rec. of Past. Wash.*, 1909, VIII, 97-101, 2 figs.) Notes on cultivation of tobacco and use of calumet by Iroquois, etc. De-

cribes granite calumet found on the bank of the Savannah river (in the Cherokee country) in August, 1908, which the author is inclined to claim as "the largest Indian stone pipe in America," and probably "the Johnson-Iroquois calumet," given in 1758 to the Cherokees at the council at Ft. Johnson, N. Y.

Rivet (P.) La race de Lagoa-Santa chez les populations précolombiennes de l'Equateur. (Bull. Soc. d'Anthrop. de Paris, 1908, v^e s., ix, 209-274, 3 pl., 11 figs.) Detailed study of 17 (out of a total of 101 normal skulls, or 16.83%) skulls from Paltacalo in Ecuador, of the Lagoa-Santa type with discussion of the past and present distribution of that type in S. America. The burial place is pre-Columbian and very old. Dr R. holds that the "fossil type" of Lagoa Santa is represented strongly on the Pacific coast, and its influence is discernible over almost all parts of S. America, and even in S. California, etc. (various authorities find the Lagoa Santa type in the man of the *Sambaguis*, *Rotocondos*, various peoples of the Argentine, *Tierra del Fuego*, etc.). Dr R. attaches to it also the skulls of *Arrecifes* and *Fonternelas*. This typical paleo-American race is hypsidolichocephalic with small cranial capacity, non-retreating forehead, prominent supraciliary arches, broad and low face, leptorhine nose, mesome orbits, strong bony structure, low stature, etc. From the north came a mesaticephalic or sub-brachycephalic race (represented now by Carib and Arawak) which mixed with the Lagoa-Santa. Another brachycephalic race occurs in the Argentine, etc. In the discussion M. Bloch set forth the view that these paleo-Americans had Papuan affinities.

Robelo (C. A.) Diccionario de Mitología Nahoá. (An. d. Mus. Nac. de México, Seg. Ep., 1908, v, 337-557.) Concluding sections, *Tonacatecuhtli-Zacatonli*, of dictionary of Nahuá mythology. The longest articles are: *Tonalamatl*, *Tonatiuh*, *Totec*, *Toxcatl*, *Trecena (Trecenario)*, *Tula* (pp. 386-396), *Veintena* (408-445), *Victimas* (446-461), *Xiuchte-*

cutli (479-482), *Xocohuetzi*, *Xochicalli*, *Xochiquetzalli*, *Yacalteuch* (535-545).

de la Rosa (M. G.) Estudio de las antigüedades peruanas halladas bajo el huano. (Rev. Histor., Lima, 1908, iii, 39-45.) Treats of prehistoric objects found beneath the guano of the Peruvian islands (Chincha and Guanape, Macabí, Lobos) in 1869-1872, some of them at a depth of 30 meters. Among these remains are idols and utensils of wood and clay, paddles, mummies, masks of gold, gold and silver objects, etc. It might be argued that the civilization represented here was "as old as the Egyptian."

— Les Caras de l'Equateur et les premiers résultats de l'expédition G. Heye sous la direction de M. Saville. (J. Soc. Amér. de Paris, 1908, n. s., v, 83-93.) Résumé and critique of M. H. Saville's *The Antiquities of Manabí* (N. Y., 1907). M. de la Rosa prefers "Antiquities of the Caras." The "stone seats" he considers to have been "sacrificial altars" used in the Cara "open-air temples." The Caras played an important rôle in the S. American culture of this region.

Ross (D. E.) A season with the Indian in the hop-fields. (So. Wkcn., Hampton, Va., 1909, xxxviii, 481-485, 5 figs.) Notes hop-picking by the Indians of northwestern Washington. The author is a member of the Clallam tribe.

Roth (W. E.) Some technological notes from the Pomeroon district, British Guiana. (J. R. Anthropol. Inst., Lond., 1909, xxxix, 26-34, 10 pl.) Treats of the splitting of the strand and preparation for plaiting the cassava-squeezer and "Arawak fan," with explanation of technical terms, processes, account of materials employed, etc. In the Arawak fan, the "saw-fish," "wish-bone" and "sting-ray-gill" patterns are described. The excellent plates make clear the process of construction.

Sapper (K.) Die Aussichten der Indianerbevolkerung Guatemalas. (A. f. Rassen- u. Ges.-Biol., Lpzg., 1909, vi, 44-58.) Treats of the ethnological-sociological and economic con-

dition (work and wages; family and economic situation; events of 1903-1906,—military service and results,—and their influence on the Indians, especially in Vera-Paz, in Alta Vera Paz in 1905 10% of the Indian population are said to have died), etc. Dr S. asks for more attention to economic conditions in ethnologic investigations.

Schell (O.) *Die Ostgrönländer.* (Globus, Braunschwg., 1908, xciv, 85-88.) Gives data concerning the Eskimo of Angmagssalik from a diary kept by the missionary Rüttel during August, 1903-Sept., 1904. Habitation and climate (thunder and lightning are thought to come from the moon), dependence on environment, hunting on land and sea, family life (divorces frequent, polygamy common; sometimes 2 rightful wives with concubines and even "exchange wives"; several families often live in one house); blood-revenge; birth and death; fear of spirits of the dead; disease and death (many superstitions; cure of man torn by bear); *angakok* still in repute, masks, amulets, etc. At the Danish Colonial Exposition at Copenhagen in 1905 many art and industrial productions of the East Greenlanders (wood-carvings, wooden-maps, bone knives, etc.) were exhibited. European influence is very noticeable.

Seler (C.) *Mexikanische Küche.* (Z. d. Ver. f. Volksk., Berlin, 1909, xix, 369-381, 3 figs.) Treats of Mexican (white and Indian) foods and drinks, their preparation, etc.: Maize (tortilla and varieties, atole, tamales, pozol, etc.), frijoles, chile in great variety, mole, olla (puchero or cocido), tasajo, fruits of many sorts, cacao, chocolate, etc.), pulque, etc. Also kitchen-utensils. The author might have referred to the paper of Bourke on "Folk-Foods of the Rio Grande" in the *J. Amer. Folk-Lore*.

Seler (E.) *Vorlage einer neu eingegangenen Sammlung von Goldaltertümern aus Costa Rica.* (Z. f. Ethnol., Berlin, 1909, xli, 463-467, 2 pl.) Treats of prehistoric gold objects from El General and jadeite objects from Matina and Lagartero, Costa Rica, now in the Royal Berlin Museum (Lehmann collection,

etc.). The gold objects are figures of "eagles," bats, human-headed figures, spiders (sometimes double-headed), fish, salamander, monkey, etc. The Museum has also 2 gold masks from Vijes in Colombia.

— *Die Tierbilder der mexikanischen und der Mayahandschriften.* (Ibid., 209-257, 381-457, 414 figs.) Treats of all figures of animals in the Mexican and Maya Mss., on monuments, etc., and their relation to religion, mythology, etc. The third part of this detailed monograph is to follow. See Stempell (W.).

Skinner (A.) *The Cree Indians of Northern Canada.* (So. Wknn., Hampton, Va., 1909, xxxviii, 78-83, 4 figs.) Notes based on visit in summer of 1908. Treats of life and trade at posts and forts. Here "one may see every degree of intermixture of white and Indian blood," and "after the second generation in this land the white blood tends to disappear in the Indian."

— *The Iroquois Indians of Western New York.* (Ibid., 206-211, 3 figs.) Notes on history, false-face dance of the false-face society of the Senecas, "Long House," etc.

Smith (H. I.) *Modoc veterans to return home.* (Ibid., 450-452.) Brief account of Modoc war and removal of prisoners to Oklahoma. Of the 152 banished in 1873, but 49 survive to take advantage of the recent act of Congress permitting their return to their former home in Oregon.

Speck (F. G.) *The Montagnais Indians.* (Ibid., 148-154, 6 figs.) Notes on Indians of Pointe Bleue, Lake St. John, Que.: Dwellings (mostly tents; also some log and frame houses), card-playing, clothing (women more conservative; dress of men "very little different from that of the ordinary French Canadian habitant"), Catholic mission, trade (keeps the Indian in debt), etc.

— *Notes on Creek mythology.* (Ibid., 9-11.) According to S. the chief features are culture-hero and animal trickster myths, genesis myth, fire-stealing, magic flight, race of slow and swift "tar-baby," abandoned child, "imitation of host," monster invulnerable save in one

spot, migration legend. Creek mythology conforms largely to the general American type and to that of the Southeast.

— Notes on the ethnology of the Osage Indians. (Trans. Dept. Arch., Univ. of Penn., Phila., 1907, II, 159-171, 1 fig.) Gives results of visit to Osages of Oklahoma in the winter of 1908: Houses and furnishings, cradle-board, clothing and ornament, hair-dressing and head-gear (elaborate), tattooing (both sexes), secret religious society (7 grades of membership, feasting, face-painting and tattooing), social groups (gentes with tattoos, rules and ceremonies of their own; war and peace sides; paternal descent; named after animals, supernatural objects, etc.; groups possibly endogamous), marriage (both purchase and capture), mourning and offerings (war-dance, "ceremonial of securing an offering to pay for the entrance of a human soul into the future life"), visiting ceremony (giving away ponies and other property); green corn dance; "mescal religion" (introduced about 5 years ago from the S. W. by an Indian named Wilson,—has induced Indians to give up whisky-drinking). The Osage number now some 1,700 (about 800 half-bloods).

Starr (F.) Indian music and records of Iroquois songs. (Amer. Antiq., Salem, Mass., 1909, XXXI, 29.) Notes need of making hard records from soft records now in existence, for individual students.

St. Clair, ed (H. H.) and Frachtenberg (L. J.) Traditions of the Coos Indians of Oregon. (J. Amer. Folk-Lore, Boston, 1909, XXII, 25-41.)

Steele (J. N.) Navajo notes. (Assembly Herald, Phila., 1909, XV, 71-75, 2 figs.) Brief description of homes, graves, etc., interviews of missionaries with chief Johnnie, a noted medicine-man; also with chiefs Tyona and Many Horses.

Stefánsson (V.) The Eskimo trade jargon of Herschel Island. (Amer. Anthropol., Lancaster, Pa., 1909, N. S., XI, 217-232.)

Stempel (W.) Die Tierbilder der Mayahandschriften. (Z. f. Ethnol., Berlin, 1908, XI, 704-743, 30 figs.)

Treats of figures of animals (monkey, jaguar, puma, dog, bear, hare, agouti, peccary, deer, mammoth(?), armadillo, opossum, parrot, eagle, owl, vulture, turkey-buzzard, raven, quetzal-bird, turkey, sea-swallow(?), pelican, alligator, tortoise, lizard, rattlesnake, boa, frog, fish, bee, scorpion, snail, etc. At pp. 739-742 is a list of figures of animals and parts of animals occurring in the Dresden Ms., Codex Troano, Codex Cortesianus, Codex Peresianus. S. thinks possibly the member of the Cervidae represented may be an extinct species, and rejects Brinton's explanation of the "elephant-trunks" as "tapir snouts." See Selser (E.)

Strasny (G.) Volkslieder und Sagen der westgrönländischen Eskimo. (Mitt. d. K.-K. Geogr. Ges. in Wien, 1909, LI, 327-335.) Gives German versions only of some 16 songs (spring, evening, mountain, hunt, love, cradle, drinking, etc.) and a few brief legends, obtained in 1906 from men and women of the settlements on the West Greenland coast (Upernivik, Umanak, Jakobshavn, Igdlorsuit, Nuguak, Egedesminde, Prøven). These songs and many more were originally recorded in Eskimo by the phonograph and then rendered into Danish from which the German version was made. The 12,000 Greenland Eskimo are coming more and more under white influences. To their own primitive drum have been added the harmonica and fiddle introduced by the Danes. Fear of being laughed at is a hindrance to record of tales and songs. The Greenlanders are fond of alcoholic drinks; even the formol in the alcohol for preserving specimens did not make it proof against their attacks. The drinking-song elted shows, of course, Danish influence.

Stutzer (O.) Sommertage in Alaska und Yukon. (Globus, Brnschw., 1909, 277-281, 297-300, 10 figs.) Account of visit to Yukon and Alaska in summer of 1908. No anthropological data.

Survivals of pagan beliefs among the Indians of South California. (Nature, Lond., 1909, LXXIX, 295-296.)

- Résumé of Miss C. G. DuBois's paper on the Luiseno Indians.
- Tatevin (C.)** De la formule de salutation chez les indigènes du Brésil. (*Anthropos*, Wien, 1909, IV, 139-141.) Gives native terms for such greetings as "Good day!" etc., in the speech of certain Indians of Amazonas, Brazil.
- Préface à un dictionnaire de la langue Tapihiya, dite Tupi ou *ñeñgatu*. (*Ibid.*, 1908, 905-915.) Father T. is composing a grammar and dictionary of "the Tupi, *ñeñgatu* (good language), *ñeñ* (language) *awa ñeñ* (language of men), or universal language of Brazil (Portuguese 'lingua geral Brasileira'), and this preface discusses in general the language and its nomenclature. Some of the derivations offered are hardly acceptable. He thinks the Tupi and Tapuya have one origin and derives Tupi from "*Tapihiya* or *Tapuya*."
- Thwaites (R. G.)** Local public museums in Wisconsin. (*Bull. Inf. No.* 43, State Hist. Soc. Wisc., 1908, 1-24, 20 figs.) Of anthropological interest are the ethnological collections of the State Historical Society at Madison, the collections of Indian knives and arrow-heads at Appleton (Public Library), Oshkosh, etc., of Indian bead-work at Superior (P. L.). Also the Green Bay Historical Society's Schumacher archeological collection. The local museums contain likewise numerous relics of the French régime and early pioneer days.
- Uhlenbeck (C. C.)** Die einheimischen Sprachen Nord-Amerikas bis zum Rio Grande. (*Anthropos*, Wien, 1908, III, 773-799.) Lists with descriptive notes and bibliographical references the linguistic stocks of the American Indians north of Mexico. Dr C. follows the Powellian nomenclature, except that he makes an "Astecoid" to include Shoshonean and Piman with the Sonoran tongues, thus dropping Shoshonean as a family-name, and the Waillatpuan is classed with the Shahaptian. In many cases the literature is brought fairly down to date (under Athapascan, e. g., there is a reference to the *American Anthropologist* for 1907), but if this monograph is

- intended to supplant or be substituted for Powell's, the bibliography needs to be extended in various places, e. g., Moquelumnan, Pujunan, Kulanapan, Shastan, Wakashan. For the Kitunahan Powell alone is cited.
- Wadsworth (The)** paleolith. (*Rec. of Past. Wash.*, 1909, VIII, 111-113, 1 fig.) Brief account of flint implement from gravel pit on west side of the river Styx in Wadsworth township, Medina co., Ohio,—possibly from the undisturbed gravel contemporaneous with that of Newcomerstown, O.
- Washington (F. B.)** Notes on the Northern Wintun Indians. (*J. Amer. Folk-Lore*, Boston, 1909, XXII, 92-95.)
- Waterman (T.)** Analysis of the Mission Indian creation story. (*Amer. Anthropol.*, Lancaster, Pa., 1909, N. S., XI, 41-55.)
- White (R.)** Making an individual of the Indian. (*So. Wkmn.*, Hampton, Va., 1909, XXXVIII, 314-316.) Shows how "this new individual, Indian only in blood and tradition, has come to supplant the stall-fed, reservation Indian." The modern Indian was made possible through the Acts of 1887 and 1907.
- The great mystery. (*Ibid.*, 1908, XXXVII, 679-681.) Notes on the religious ideas of the Indian, who, according to the author, "has always believed in one Supreme Being, whom he calls the Great Mystery, because he cannot understand him."
- Will (G. F.)** Songs of western cowboys. (*J. Amer. Folk-Lore*, Boston, 1909, XXII, 256-263.)
- Some observations made in Northwestern South Dakota. (*Amer. Anthropol.*, Lancaster, Pa., 1909, N. S., XI, 257-265, 8 figs.)
- Wilser (L.)** Spuren des Vornmenschen aus Südamerika. (*Korr.-Bl. d. D. Ges. f. Anthr.*, Brunschwg., 1908, XXXIX, 124-125.) Treats of the cervical vertebrae (atlas) of the *Homo-simius* (Ameghino) of Monte Hermoso and other evidence of the "precursor of man" in S. America. W. regards Ameghino's theory of the S. American origin of man as quite untenable, and seeks the place of origin in the Arctic region (America-Asia).

- Das Alter des Menschen in Südamerika. (Globus, Brunschwg., 1908, xciv, 333-335.) Discusses the age of man in S. America as set forth in the theories of Ameghino and Arldt (in his *Tierwelt und Erdalter*, 1908), etc. W. holds that both in N. and S. America man is a comparatively recent comer, and Ameghino's theory of the origin of apes and man in Patagonia contradicts the facts of geological and biological evolution.
- Wilson (R.) Is the prevalence of tuberculosis among Negroes due to race tendency? (So. Wmn., Hampton, Va., 1908, xxxvii, 648-655.) Statistical study with conclusion that "environment and ignorance, and not innate tendency, are the chief factors in the production of tuberculosis among these people."
- Wintenberg (W. J.) Discovery of a stone cist in Ontario. (Rec. of Past, Wash., 1909, viii, 75-76, 1 fg.) Brief account of the only stone cist (near Streetsville) in Ontario, discovered in the fall of 1906. It seems to be the work of man, but no human remains of any sort were found.
- Wright (G. F.) The new Serpent Mound in Ohio. (Amer. Anthropol. Lancaster, Pa., 1909, N. S., xi, 147-149, 1 fg.)
- Zaborowski (S.) Les métissages au Mexique d'après M. Engerrand. (Bull. Soc. d'Anthr. de Paris, 1908, v^e s., ix, 712-716, 3 figs.) Gives extracts from letters from M. Engerrand, a Belgian savant in Mexico, concerning the mixture of races in Yucatan (the illustrations represent men and women at the hacienda in Ticul). In the country between Chanchucmil and Celestun, on the borders of the State of Campeche, E. has seen "working together in the forests, and all dressed alike, Maya, Chinese, and *Corean* children." Yaqui Indians from Sonora and Negroes mingle with the Maya, with whom Spanish mixture is of old date. German immigrants of years past have added to the possibilities of *métissage*, particularly in Guatemala. See Blanchard (R.)
- "Zwei Jahre unter den Indianern." (Globus, Brunschwg., 1909, xciv, 182-185, 4 figs.) Notes on the first volume of Dr Theodor Koch's *Zwei Jahre unter den Indianern; Reisen in Nordwestbrasilien 1903 bis 1905* (Berlin, 1909), the record of a "born ethnological explorer," who has been "an Indian among the Indians."

ANTHROPOLOGIC MISCELLANEA

DR WILLS DE HASS, who in earlier days was an active student of American archeology, died at Pittsburgh, January 24, 1910, in his ninety-third year. Dr De Hass was born in Washington county, Pennsylvania, and received his education at Western University and Washington and Jefferson College, afterward studying medicine with Dr Joseph P. Gazzam, of Pittsburgh, and attending lectures at Jefferson College, Philadelphia. He early turned attention to historical and scientific subjects, and especially to American archeology, being for a time associated with the Bureau of American Ethnology. He served throughout the Civil War and took a prominent part in the final separation and in the formation of the new government of West Virginia. Dr De Hass was the author of a number of writings on the archeology and history of the Indians, the most important of which is his *History of the Early Settlement and Indian Wars of Western Virginia* (Wheeling, 1851), and a paper on *Archæology of the Mississippi Valley*, presented before the American Association for the Advancement of Science in 1868.

THE department of anthropology of the American Museum of Natural History has been enriched by the accession of two large local collections. The first of these was made on Manhattan island by Messrs Calver and Bolton; it is particularly valuable, because the sites on the upper end of the island, whence the objects were obtained, are fast becoming obliterated. Several skeletons are interesting as being the only known authentic remains of the Manhattan aborigines. There is also a large and perfect pottery vessel of the Iroquois type from the upper end of Manhattan island. The second collection was made on Staten island during the years 1900-09 by Mr Alanson Skinner, of the department of anthropology, and is the largest and most complete in existence from this locality, consisting of nearly 1,200 specimens.

ON January 1, 1910, Mr William H. Holmes severed his official connection with the Bureau of American Ethnology, Smithsonian Institution, and resumed his place as head curator of anthropology in the National Museum, and in this connection also became curator of the National Gallery of Art. Mr Holmes's preference has always been for museum work, and he had in view especially the better opportunity

afforded by the change for completing for publication the results of his various archeological researches. Mr F. W. Hodge succeeded him as head of the Bureau of American Ethnology, under the official designation of ethnologist-in-charge.

THE gold medal recently founded by Herr Alfred Maas for the Berlin Gesellschaft für Anthropologie, Ethnologie und Urgeschichte was bestowed by that society, on its fortieth anniversary, upon Professor A. Grünwedel of the Royal Museum für Völkerkunde in recognition of the splendid results achieved by him on his three Turfan expeditions. This is the first time the medal has been awarded.

THE University of California is now maintaining a number of fellowships for graduate students, in various subjects, and there is a possibility of one of these being awarded in anthropology during the year 1910-11. The value is \$400. Should there be a successful candidate the department of anthropology will endeavor to place at his disposal opportunity for anthropological field work in California.

At a joint meeting of the American Ethnological Society and the Section of Anthropology and Psychology of the New York Academy of Sciences, held January 24th, Dr Franz Boas delivered a public lecture on *The Changes in the Physical Characteristics of the Immigrants to the United States*.

"THE ARCHAEOLOGICAL BULLETIN," published quarterly by the International Society of Archaeologists, has made its appearance at Council Grove, Kansas. Allen Jesse Reynolds is Secretary, Treasurer, and Editor. The little journal is published chiefly in the interest of collectors.

COL. WILLIAM H. LOVE, of Baltimore, died at Reistertown, Maryland, February 14, aged sixty-eight years. Colonel Love had long been interested in archeology, and shortly before his death presented a large collection of aboriginal American objects to Woman's College, Baltimore.

At a meeting of the Wyoming Historical and Geological Society, of Wilkes-Barre, Pennsylvania, on December 10, Mr Arthur C. Parker, State Archeologist and Ethnologist of New York, delivered an illustrated lecture on *The Original Indian Occupancy of Wyoming Valley*.

DR F. W. PUTNAM, emeritus professor of American archeology and ethnology at Harvard University, has been appointed honorary academician of the Museum of the National University of La Plata in the section of the natural sciences.

DR E. B. TYLOR, professor of anthropology at Oxford University, will retire from active service. It will be remembered that Professor Tylor celebrated his seventy-fifth birthday October 2, 1907.

We regret to record the death, at Florence, Italy, on December 18, 1909, of Professor Henry Hillyer Giglioli, on the eve of the celebration of his fortieth year of university teaching.

MR W. CROOKE, B.A., has been appointed president of Section H (Anthropology) of the British Association for the Advancement of Science, which meets at Sheffield beginning August 31 next.

At a meeting of the American Ethnological Society of New York, on February 9, 1910, a public lecture was given by Dr George Grant MacCurdy on Some Recent Discoveries Bearing on the Antiquity of Man.

THE sixth session of the Congrès Préhistorique de France will be held at Tours from August 21 to 27, inclusive.

INDEX TO AUTHORS AND TITLES

- ABORIGINAL REMAINS in Champlain valley, 607
 — in Chattahoochee valley, 186
 ALABAMA, aboriginal remains in Chattahoochee valley, 186
 ALABAMA ANTHROPOLOGICAL SOCIETY, formation of, 325
 — proceedings of, 491
 ALASKA, SOUTHERN, archeological remains on coast of, 595
 AMERICAN ANTHROPOLOGICAL ASSOCIATION, meeting of, 529
 — officers and members, 152
 AMERICAN ARCHEOLOGY, SCHOOL OF, 150
 AMERICAN ETHNOLOGICAL SOCIETY, publications of, 325
 AMERICANISTS, "Centenary Congress" of, 533
 AMERICAN MUSEUM OF NATURAL HISTORY, accessions to, 815
 ANTHROPOLOGICAL SOCIETY OF WASHINGTON, annual meeting of, 327
 — proceedings, 478
 ANTHROPOLOGY at the Baltimore meeting, 101
 — at the Winnipeg meeting, 323, 456
 — fellowship in, 816
 — Imperial Bureau of, 131
 — scope and content of, 142
 ANTILLEAN STATUETTE, with notes on West Indian religious beliefs, 348
 ARCHEOLOGICAL BULLETIN, THE, publication of, 816
 ARCHEOLOGICAL REMAINS, coast of British Columbia, 595
 ARCHEOLOGY in Nebraska, 144
 — of Everglades region, Florida, 139
 ARTIFACTS, CHIPPED, in British Columbia, 359
 AXES, GROOVED, in Europe, 316
 BALTIMORE MEETING, anthropology at the, 101
 BANNOCK AND SHOSHONE languages, 266
 BARRETT, DR S. A., appointment of, 326
 BARTLETT, JOHN RUSSELL. The language of the Piro, 426
 BASKETRY, CALIFORNIA, and the Pomo, 233
 — Kutenai, 318
 BOAS, DR FRANZ, degree conferred on, 540. Lecture by, 816. Needle-case from Grinnell Land, 135. Obituary of William Jones, 137
 BRANNON, P. A. Aboriginal remains in the middle Chattahoochee valley of Alabama and Georgia, 186
 BRINTON, DR DANIEL GARRISON, memorial of, 327
 BRITISH ASSOCIATION MEETING, 323, 456
 BRITISH COLUMBIA, chipped artifacts and interior culture in, 359
 — northern, archeological remains on coast, 595
 BRITISH EMPIRE, Imperial Bureau of Anthropology for, 131
 BRUNNOW, RUDOLPH ERNEST, honored, 328. Medal awarded to, 151
 BRUNHUBER, DOCTOR, reported murder of, 541
 BUFFALO HAIR, uses of by North American Indians, 401
 BUREAU OF AMERICAN ETHNOLOGY, changes in, 815
 BUSHNELL, D. L., JR. Grooved axes in Europe, 316. Shell embroidery in Florida, 320. The various uses of buffalo hair by the North American Indians, 401
 CALIFORNIA BASKETRY and the Pomo, 233
 CALIFORNIA, Indian stone constructions in, 322
 CEREMONIAL VASE from Cholula, Mexico, 199
 CHAMBERLAIN, DR A. F. Kutenai and

- Shoshonean, 535. Kutenai basketry, 318. Kutenai linguistic material, 13.
Miss Johanna Mestorf, 536. Periodical literature, 674
- CHAMBERLIN, RALPH V. Ute plant names, 27
- CHAMPLAIN VALLEY, aboriginal remains in, 607
- CHATTAHOOCHEE VALLEY, aboriginal remains in, 186
- CHEVALIER, M., researches of, 327
- CHIPPED ARTIFACTS in British Columbia, 359
- CHOLDA, MEXICO, ceremonial vase from, 199
- CHUCKIS, measurements of, 531
- COLE, FAY COOPER. Distribution of the non-Christian tribes of northwestern Luzon, 329. Plans of, 326
- COLLECTION, HEYE, 149
- CONGRÈS ARCHÉOLOGIQUE et Historique de Liège, 150
— Préhistorique de France, 150, 817
- CONGRESS, "CENTENARY," of Americanists, 533
- COXE, ECKLEY BRINTON, JR., expedition of, 151
- CREATION STORY, Mission Indian, analysis of, 41
- CROOKE, W., appointment of, 817
- CULTURE, INTERIOR, in British Columbia, 359
- DALL, DR W. H., on death of Fru Signe Rink, 317
- DEFECTS, RADICAL, of ethnology, 321
- DE HASS, DR WILLS, death of, 815
- DENSMORE, FRANCES. Scale formation in primitive music, 1
- DHUDHURUA LANGUAGE of Victoria, 278
- DIESKRUD, JUUL. Scope and content of anthropology, 142
- DIXON, DR ROLAND B., plans of, 328
- DORSEY, DR GEORGE A., plans of, 327
- DUG-OUT, ANCIENT, in England, 317
- EARTH-LODGE RUINS, Nebraska, 56
- EGYPT, negroid characters in, 135
- EL RITO DE LOS FRIJOLES, excavations in (1909), 651
- EMBROIDERY, SHELL, from Florida, 320
- ENGLAND, ancient "dug-out" from, 317
— Maunbury Rings Circle, 131
- EDLITHIC and paleolithic man, 92
- ESKIMO TRADE JARCON of Herschel Island, 217
- ETHNOLOGY, radical defects of, 321
- EVANS, DR ARTHUR, honored, 150
- EVERGLADES REGION, Florida, archeology of, 139
- EXCAVATIONS at Tyuonyi, New Mexico, in 1908, 434
— in El Rito de los Frijoles (1909), 651
- FARABEE, W. C., election of, 150
- FEWKES, J. Walter. Antillean statuette, with notes on West Indian religious beliefs, 348. Election of, 327
- FLORIDA, archeology of Everglades region, 139
— shell embroidery from, 320
- FRANCE, Congrès Préhistorique de, 150
- GALTON, SIR FRANCIS, gift by, 327. Honored, 328
- GATES, P. G. Indian stone constructions, Salton sea, 322
- GEORGIA, aboriginal remains in Chattha-hoochee valley, 186
- GIGLIOLI, PROF. ENRICO H., death of, 817. Testimonial to, 541
- GILBERTSON, ALBERT N., course of, 541
- GILDER, ROBERT F. Earth-lodge ruins, eastern Nebraska, 56
- GORDON, DR GEORGE B., work of, 151
- GREECE, prehistoric remains at Olympia, 316
- GRINNELL LAND, needle-case from, 135
- GROOVED AXES in Europe, 316
- GRÖNWEDDEL, PROF. A., medal awarded to, 816
- GUATEMALA, inscriptions of Naranjo, 543
- HAMY, THEODORE-JULES-ERNEST, obituary of, 145
- HARRINGTON, JOHN P. Notes on the Piro language, 563

- HARRINGTON, M. R. Archeology of Everglades region, Florida, 139. Unusual Iroquois specimens, 85
- HEIDN, DR SVEN, medal awarded to, 150
- HERSCHEL ISLAND, Eskimo trade jargon of, 217
- HEWITT, EDGAR L. The excavations at El Rito de los Frijoles in 1909, 651
- HEYE COLLECTION, THE, 149
- HODGE, F. W. Introduction to The Language of the Piro (Bartlett), 426. Promotion of, 816
- HOLMES, WILLIAM H., changes affecting, 815
- HOUSES, PENOBSCOT, 601
- HRELIČKA, DR ALEŠ, on skeletal remains, Nebraska, 79
- IMPERIAL BUREAU OF ANTHROPOLOGY, 131
- INDIAN STONE CONSTRUCTION, California, 322
- INSCRIPTIONS OF NARANJO, Guatemala, 543
- IROQUOIS SPECIMENS, 85
— See SENECA-IROQUOIS
- JARGON, ESKIMO TRADE, of Herschel Island, 217
- JONES, WILLIAM, obituary of, 137
- KETRAE, SHRIDHAR V. Radical defects of ethnology, 321
- KISSELL, MARY LOIS. A Kutenai berry-basket, 529
- KROEBER, A. L. Bannock and Shoshoni languages, 266. California basketry and the Pomo, 233. Election, 150. Measurements of Chukchis, 531
- KUTENAIAN AND SHOShONEAN, 535
- KUTENAI basketry, 318
— berry-basket, 529
— linguistic material, 13
- LANGUAGES, Bannock and Shoshoni, 266
— Dhudburoa language of Victoria, 278
— Kutenai, 13
— Kutenai and Shoshonean, 535
— Piro, 426, 563
- LEHMANN, DR WALTER, appointment of, 541
- LIÈGE, Congrès Archéologique et Historique de, 150
- LINGUISTIC MATERIAL, Kutenai, 13
— See LANGUAGES
- LIVERPOOL UNIVERSITY Institute of Archeology publication, 326
- LOMBROSO, PROF. CESARE, death of, 541
- LOVE, COL. WM. H., death of, 816
- LUMHOLTZ, CARL. A remarkable ceremonial vase from Cholula, Mexico, 199. Researches of, 327
- LUZON, NORTHWESTERN, non-Christian tribes of, 329
- MACCUDY, GEORGE GRANT. Anthropology at the Baltimore meeting, 101. Anthropology at the Winnipeg meeting, 456. Eolithic and paleolithic man, 92. Lectures by, 151, 817. Theodore-Jules-Ernest Hawy, 145
- MC ELMELL CARON, 149
- MANUSCRIPT, PERUVIAN, discovery of, 136
- MATHEWS, R. H. Dhudburoa language of Victoria, 278
- MAUMBURY RINGS CIRCLE, 131
- MAU, PROF. AUGUST, death of, 328
- MAYNARD, GEORGE C., election of, 327
- MEASUREMENTS of Chukchis, 531
- MEDICINE SOCIETIES, secret, of the Seneca, 161
- MENTORE, MISS JOHANNA, obituary of, 536
- MEXICO, ceremonial vase from Cholula, 199
- MISSION INDIAN creation story, analysis of, 41
- MONTGOMERY, PROF. HENRY, researches of, 539
- MOONEY, JAMES. Election, 327. Peruvian manuscript discovery, 136
- MORLEY, SYLVANUS G. Inscriptions of Naranjo, Guatemala, 543
- MOUND, new serpent, in Ohio, 147
- MUSEO NACIONAL of Mexico, changes in, 326
- MUSIC, PRIMITIVE, scale formation in, 1

- NARANJO, GUATEMALA, inscriptions of, 543
- NEBRASKA, archeology in, 144
— earth-lodge ruins in, 56
- NEEDLE-CASK from Grinnell Land, 135
- NEGROID CHARACTERS in Egypt, 135
- NEW MEXICO, excavations at El Rito de los Frijoles (1909), 651
— at Tyuonyi (1908), 434
- NEW MEXICO MUSEUM, 150
- NIEUWENHUIS, DR. A. W., honored, 328
- OHIO, new serpent mound in, 147
- OLYMPIA, prehistoric remains at, 316
- ORCHARD, W. C. Penobscot houses, 601
- PALEOLITHIC MAN, 92
- PAN-AMERICAN SCIENTIFIC CONGRESS, 319
- PARIS SOCIETY OF ANTHROPOLOGY, anniversary of, 150
- PARKER, ARTHUR C. Lecture by, 816.
Secret medicine societies of the Seneca, 161
- PANAMAQUODDY AVIATOR, A, 628
- PEABODY, CHARLES A. reconnaissance trip in western Texas, 202
- PEABODY MUSEUM EXPEDITION, 538
- PEARSON, PROF. KARL, lectures by, 151
- PENOBSCOT HOUSES, 601
- PERIODICAL LITERATURE, 674
- PERKINS, G. H. Aboriginal remains in the Champlain valley, 607
- PERUVIAN MANUSCRIPT discovery, 136
- PERUVIAN THROWING-STICKS, 624
- PHILLIPS ACADEMY lectures, 540
- PIRO LANGUAGE, THE, 426, 563
- PLANT NAMES, UTE, 27
- POMO, CALIFORNIA, basketry and the, 233
- PREHISTORIC REMAINS, England, 317
— at Olympia, 316
- PRIMITIVE MUSIC, scale formation in, 1
- PUTNAM, PROF. F. W. Anniversary, 285.
Honored, 285, 327, 816. The Peabody Museum expedition, 538
- RACES CONGRESS, proposed universal, 539
- RECONNAISSANCE in western Texas, 202
- RELIGIOUS BELIEFS, West Indian, 348
- REMAINS, ABORIGINAL, in Champlain valley, 607
— archeological, on coast of British Columbia and Alaska, 607
— skeletal, in Nebraska, 79
- RETZIUS, PROF. GUSTAV, lecture by, 541
- RIDER, DR. WHELOCK, publications of, 326
- RINK, FRU SIGNE, death of, 317
- RIVET, DR. P., appointment of, 327
- RUINS, EARTH-LODGE, Nebraska, 56
- SALTON SEA, Indian stone constructions near, 322
- SAMSON, WILLIAM H., and Wheelock Rider, publications of, 326
- SAPIR, DR. EDWARD, appointment of, 541
- SAVILLE, PROF. M. H., election of, 150
- SCALE FORMATION in primitive music, 1
- SCHMELTZ, DR. J. D. E., death of, 324
- SCHMITZ, DOCTOR, reported murder of, 541
- SCHOOL OF AMERICAN ARCHEOLOGY, 150
- SCIENTIFIC CONGRESS, PAN-AMERICAN, 319
- SECRET MEDICINE SOCIETIES of the Seneca, 161
- SENECA-IROQUOIS, snow-snake as played by, 250
- SENECA, secret medicine societies of, 161
- SERPENT MOUND, new, in Ohio, 147
- SHELL-EMBROIDERY from Florida, 320
- SHOSHONEAN, Kutenai and, 535
- SHOSHONI AND HANNOCK LANGUAGES, 266
- SINCLAIR, A. T. Tattooing of the North American Indians, 362
- SKELETAL REMAINS, Nebraska, 79
- SMITH, HARLAN I. Archeological remains on the coast of northern British Columbia and southern Alaska, 595.
New evidence of the distribution of chipped artifacts and interior culture in British Columbia, 359. Researches, 537
- SNOW-SNAKE as played by the Seneca-Iroquois, 250
- SOCIETIES, SECRET MEDICINE, of the Seneca, 161

- SOUTH DAKOTA, northwestern, observations in, 257
- SPECK, DR FRANK G., appointment of, 327
- STARR, PROF. FREDERICK, plans of, 325
- STEFANSSON, V. The Eskimo trade jargon of Herschel island, 217
- STONE CONSTRUCTIONS near Salton sea, California, 322
- SWANTON, DR J. R., election of, 327
- TATTOOING of the North American Indians, 362
- TEXAS, WESTERN, reconnaissance trip in, 202
- THROWING-STICKS, Peruvian, 624
- THURSTON, GEN. GATES P., collection given by, 540
- TOZZER, DR A. M. Election of, 150. Putnam anniversary, 285. Researches of, 328
- TRADE JARGON, Eskimo, of Herschel island, 217
- TYLOR, DR. E. B., retirement of, 817
- TYUNYI, NEW MEXICO, excavations at, 434, 651
- UHLE, MAX. Peruvian throwing-sticks, 624
- UNIVERSAL RACES CONGRESS, proposed, 539
- UNIVERSITY OF CALIFORNIA, fellowships at, 816
- UNIVERSITY OF NEBRASKA publication, 151
- UTAH UNIVERSITY archeological expedition, 541
- UTE PLANT NAMES, 27
- VASE, CEREMONIAL, from Cholula, Mexico, 199
- VERMONT, aboriginal remains in Champlain valley, 607
- VERNEAU, DR R., promotion of, 327
- VICTORIA, Dhudhuroo language of, 278
- VOOGA, DR PAUL, gift of, 540
- WATERMAN, THOMAS, analysis of Mission Indian creation story, 41
- WEST INDIAN religious beliefs, 348
- WILL, GEORGE F. Observations in north-western South Dakota, 257
- WINNIPEG MEETING, anthropology at the, 323, 456
- WOLFE, MISS EMMA SARAH, bequests of, 328
- WRIGHT, G. FREDERICK. The new serpent mound in Ohio, 147
- YALE UNIVERSITY, Peabody Museum, accessions, 540
- YATES, LORENZO G., death of, 151





"A book that is shut is but a block"

CENTRAL ARCHAEOLOGICAL LIBRARY

GOVT. OF INDIA
Department of Archaeology
NEW DELHI.

Please help us to keep the book
clean and moving.

S. N. 149, N. DELHI.